



**The Role of Embeddedness for Resource Integration and Value  
Co-creation in Service Systems**

*A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy*

**Gaurangi Laud**  
*Masters of Business (Mktg)*  
*Masters of Business Administration (MBA)*

**School of Economics Finance and Marketing**

College of Business

RMIT University

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## DECLARATION

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis/project is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

I further declare that this thesis is structured in a series of three separate studies. Although each study makes individual contribution to research, they relate back to one core theme for coherence. I also declare that Study 1 included in the thesis is a multi-author work that was accepted for publication in an international marketing journal. The citation of the published article is as follows;

Laud, G, Karpen I. O, Mulye R, and Rahman K (2015), “The role of embeddedness for resource integration –Complementing S-D logic research through a social capital perspective” *Marketing Theory* pp.1-35 doi 10.117/1470593115572671 .

My principal responsibility as a lead author was original idea development, writing up and revising the study to include reviewers’ comments. I acknowledge that my co-authors offered constructive feedback for refining the article for publication. I have obtained the relevant authorisation from my co-authors to include the accepted manuscript in my thesis. The co-authors are also acknowledged in the bibliography of this thesis.

Gaurangi Laud

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## **ABSTRACT**

Marketing theory and practice highlight the significance of co-creation among market actors (e.g. firms and/or consumers) for mutually beneficial valued outcomes. The essence of such collaborations is the social relationships that facilitate opportunities for resource exchange. The significance of social contexts for value creation is emphasized within the marketing literature. Despite its importance, the nature of social constellations—particularly the concept of embeddedness—is rarely discussed in the context of service-dominant (S-D) logic, the most influential school of thought in marketing. This significantly confines the extant understanding of factors that influence value co-creation amongst actors in service systems. Grounded in its sociological foundations, the concept of embeddedness has the potential to provide meaningful insights into the dynamics of value co-creation processes.

Against this background, the present thesis develops a comprehensive conceptual framework to establish the importance of embeddedness as a powerful construct, and for understanding actors' resource integration processes in service systems. This research develops a rich theoretical and empirical understanding of embeddedness by way of three dimensions (structural, relational and cultural), and investigates its implications for actors' value co-creation behaviours and value-in-context outcomes. In addition, the research refines co-creation perspectives by examining a central boundary condition of co-creation processes. The data was collected in an online service environment and was analysed using structural equation modelling techniques. The findings support a significant impact of embeddedness on consumers' co-creation behaviours and their value outcomes. Overall, the study contributes by foregrounding conceptual and empirical insights into embeddedness, and advances S-D logic research by clarifying how actors' value perceptions are socially constructed, adapted and consumed to co-create meaningful service experiences.

## THESIS RELATED PUBLICATIONS

### STUDY 1

- Laud, G, Karpen I. O, Mulye R, and Rahman K (2015), “The role of embeddedness for resource integration –Complementing S-D logic research through a social capital perspective’ *Marketing Theory* pp.1-35 doi 10.117/1470593115572671 (**ABDC Ranking A**).
- Laud G, Mulye R and Rahman K (2011), “Use of Embedded Brand Communities for Value Co-creation”, (Eds) *Australia and New Zealand Marketing Association Conference Proceedings* Paper No.628, Perth, Australia.
- Laud, G; Karpen, I O.; Mulye, R and Rahman K (2013), “Enriching Service-dominant Logic Research through a Social Capital Perspective: The Role of Embeddedness for Resource Integration”, (Eds) *The Naples Forum on Service Proceedings* pp. 77-78, June 18-21, Naples, Italy.

### STUDY 2

- Laud, G and Karpen I. O (2014), “Consumers' Embeddedness - Determinant Of Value Co-creation Behaviour In Service Systems”, (Eds) *Australia and New Zealand Marketing Association Conference Proceedings* pp. 501 December 1- 3rd, Brisbane Australia.

### STUDY 3

- Laud G, Karpen I.O Mulye R, and Rahman K (forthcoming) “Drivers and Outcomes of Value Co-creation Behaviour: Investigating the Potential Boundary Conditions, *The Naples Forum on Service, June 9<sup>th</sup> – 12<sup>th</sup>, 2015. Italy, Naples.*

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## LIST OF ABBREVIATIONS

<b>S-D logic</b>	Service - Dominant logic
<b>SCT</b>	Social Capital Theory
<b>VCB</b>	Value Co-creation Behaviour
<b>SEM</b>	Structural Equation Modelling
<b>MG-SEM</b>	Multi-group Structural Equation Modelling
<b>AMOS</b>	Analysis of Moments Structure
<b>d.f.</b>	Degrees of freedom
<b>CFI</b>	Comparative Fit Index
<b>RMSEA</b>	Root mean square error of approximation
<b>TLI</b>	Turker – Lewis Index
<b>SRMR</b>	Standardized root mean square residual

## LIST OF THESIS RELATED DEFINITIONS

- 1) ***Embeddedness:*** *Is defined as the contextualisation of economic activity in ongoing patterns of social relations.*
- 2) ***Structural embeddedness:*** *Is defined as the total number of connections (social relationships) an individual has in way that facilitates or hinders their resource exchange competences and subsequent value outcomes.*
- 3) ***Relational embeddedness:*** *Is defined as the quality of personal relationships of individuals, such as strong and weak ties in way that facilitates or hinders their resource exchange competences and subsequent value outcomes.*
- 4) ***Cultural embeddedness:*** *Is the degree to which an individual internalises the shared understanding of rules, norms, symbols and values of service system in a way that facilitates or hinders their resource exchange competences and subsequent value outcomes.*
- 5) ***Service system:*** *Service systems are value-co-creation configurations of people, technology, value propositions participating in on-going exchange of resources.*
- 6) ***Service ecosystem:*** *A relatively self-contained, self-adjusting systems of resource-integrating actors connected by shared institutional logics and mutual value creation through service exchange.*
- 7) ***Value co-creation behaviour:*** *Value co-creation behaviour is defined as participation in and contribution to resource integration processes.*
- 8) ***Value-in-context outcome:*** *Value-in-context as an outcome in view of the total situational factors (object-oriented, self-oriented or social-oriented) relevant to the co-creation processes.*



- 9) ***In-service co-creation behaviour:*** *Consumers' service task-related behaviours that (also referred to as "in-service" or "in-role" behaviours) manifest consumers' contributions to core resource-exchange activities.*

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## **INTRODUCTION TO THE STUDIES**

### **Context and Research Questions**

The contemporary perspective of service-dominant logic (S-D logic) (Vargo and Lusch, 2004) has offered a comprehensive framework with a transcending influence on the development of marketing science. S-D logic has important implications for marketing theory, practice and pedagogy, as well as for general management and public policy (Bolton, 2004). “Service-dominant logic is a mindset for a unified understanding of the purpose and nature of organizations, markets and society” (Vargo and Lusch, 2014, p. 8). Specifically, the scope of S-D logic is to enable a theory that is fundamentally concerned with organizations, markets and society by exchanging services through the application of competences (e.g. knowledge and skills) for the mutual benefit of all involved parties.

The widespread importance of service-dominant logic is evident from manifold research articles in high-level marketing journals, special issues, keynotes in leading industry and academic conferences, and more than 5000 citations for Vargo and Lusch (2004, 2008) articles (Google Scholar, 2014). The primary contention of this collaborative perspective is based on four fundamental axioms (Vargo and Lush, 2014, p. 15): “service is the fundamental basis of exchange”; “the customer is always the co-creator of value”; “all economic and social actors are resource integrators”; and “value is always uniquely and phenomenologically determined by the beneficiary”. In addition to these four axioms, the S-D logic framework is supported by six foundational premises (see Vargo and Lusch, 2008).

The high visibility of S-D logic within scholarly and practice circles has led to the development of a unique lexicon comprising concepts, words and symbols. The S-D logic community has thus created a vibrant arena for theory building and empirical research for progressing the S-D logic framework; however, even the most tenacious philosophies are not exempt from critiques and debates (e.g. Day, 2004; Stauss, 2005; Grönoos, 2008; Grönroos and Voima, 2013). Yet, such challenges have assisted in refining the S-D logic framework to drive the transformation of value creation concepts in marketing. Overall, S-D logic is a service-oriented rationale whereby market actors participate in the co-creation of value through mutually beneficial interactions comprising practices, behaviours and activities. As

the pioneers of S-D logic suggest, S-D logic theory is a work in progress that is continually being refined and developed to create a more cohesive research tradition to inform the basis of a firm's reinvented value propositions. Thus, it emphasizes the strategic implementations and implications of S-D logic for enhancing a firm's sustainability through mutually beneficial service thinking.

Despite considerable recent advancements in S-D logic research, little attention has been paid to the importance of actors' (e.g. consumers') social relationships—particularly regarding their embeddedness and the implications for resource integration processes. The extant literature of S-D logic (e.g. Akaka et al. 2012, Vargo and Lusch, 2008, 2010, 2011) highlights the relational nature of resource integration processes and places connections between resource exchange partners in a primary position. In other words, resource integration process and consequent value actualisation become possible only when actors in a service system are connected to and engage with each other. To apply their competencies and integrate resources, individuals need access to relevant resources, which they often acquire from social relationships they maintain within a broader social structure. Similarly, the significance of social relationships as a key concept that potentially impacts individuals' behaviour and actions is well documented within marketing, organisational behaviour, sociology and psychology literature streams. *Embeddedness is the contextualization of ongoing patterns of social relationships that shape relational constellations, actor behaviours, processes and outcomes in marketplaces* (Hess, 2004; Jessop, 2001).

S-D logic literature currently offers limited insights into how actors' embeddedness facilitates their co-creation processes and enables them to achieve their desired value outcomes. An explicit understanding of the role of actors' embeddedness in enabling value realization through *behavioural manifestations, resource-exchange practices, outcomes and conditions* is lacking. Such knowledge can assist in revealing the mechanisms of resource integration processes and in articulating the usefulness of S-D logic for strategic initiatives within contemporary marketing scenarios. Moreover, research—such as Brodie et al. (2011)—calls for more specific theorization by connecting S-D logic with mid-range theories in order to support S-D logic's innovative macro perspective of value creation within marketplaces. The authors suggest a conjunction of such theories would enable conceptual and empirical frameworks to facilitate a richer understanding of S-D logic that can offer distinct managerial agendas.

Consistent with the above arguments, this research project aligns itself with the advancement of S-D logic research by contributing deeper insights into resource integration and value co-creation processes. Further, the study draws collinearity between S-D logic and multiple middle-range theories (such as social capital, social exchange and socio-cognitive theory) in order to offer in-depth knowledge. To date, S-D logic research considers “networks” as mediators of resource integration and value co-creation processes. Although useful, this perspective does not sufficiently reveal how actors’ competencies and behaviours are influenced by their social embeddedness in the market, which has the potential to impact co-creation processes and anticipated outcomes.

Therefore, the core purpose of this research project is to contribute to the marketing literature by foregrounding conceptual and empirical insights about embeddedness—as relating to S-D logic—and to advance an understanding of how actors socially design meaningful value experiences. From its sociological foundations, actors’ embeddedness is a powerful construct. It has the potential to offer a comprehensive understanding of the mechanisms of resource integration and value realization processes that co-actualise within a service system. A *service system*, as described within S-D logic, is a subset of a broader socio-cultural structure that shapes individual actors’ and systems’ contextual frames (Edvardsson et al., 2012; Akaka et al., 2013).

Understanding actors’ embeddedness will enable firms to facilitate significant relationships and deeper interactions with their stakeholders (e.g. consumers), and strategically mobilise them for mutual benefit. In summary, an exhaustive and coherent discussion on embeddedness that is further supported by empirical research has not yet been undertaken. The current research project therefore proposes the following three research questions, which are subsequently addressed in this thesis.

**Research Question 1a:** *What role does social interdependence and, in particular, the actors’ level of embeddedness, play in resource integration in a service system?*

**Research Question 1b:** *How can social capital theory expand the understanding of resource integration from a theoretical point of view and thereby enrich the S-D logic perspective?*

**Research Question 2a:** *What role does consumers’ overall embeddedness play in determining value co-creation behaviour in a service system?*

**Research Question 2b:** *How does consumers' value co-creation behaviour subsequently influence their value-in-context outcomes in a service system?*

**Research Question 3a:** *What is the influence of consumer embeddedness on dimensions of in-service co-creation behaviours?*

**Research Question 3b:** *What is the role of self-efficacy in view of shaping the relationship between consumer embeddedness and in-service co-creation behaviours?*

These underlying research questions will be addressed consecutively by way of three individual studies, each addressing calls for such research (Akaka et al., 2012, 2013; Grönoos, 2008, 2013; Brodie et al., 2011). Each study serves as a basis for future publications and partly builds on each other. Although Study 2 and Study 3 leverage the conceptual foundation of embeddedness established in Study 1, both studies have distinct theoretical frameworks and/or research models. The unique theoretical frameworks/models highlight the centrality of novel concepts such as value co-creation behaviour, the role of intra-personal factors and in-service co-creation behaviours for a better understanding of value co-creation processes. In doing so, Study 2 and Study 3 contribute to the ongoing dialogue within the marketing literature by providing empirical evidence for significant concepts currently discussed in the literature. Specifically, it advances service research associated with value co-creation processes in service systems and offers managerial insights to adopt service-centric co-creation models.

All three studies have their own rationale, methodology and contribution. In general, the first study is conceptual and introduces the idea of embeddedness to the S-D logic perspective. The two subsequent studies are empirical investigations. Study 2 builds on the idea of value co-creation behaviour offered by Yi and Gong (2012) and examines a nomological network to understand the role embeddedness as an antecedent of co-creation behaviour and vis-à-vis outcomes for the participating actors within a service system. Study 3 elaborates on the synergistic relationships between an individual's inter-personal and intra-personal factors that influence their resource integration competences. Further, study 3 validates the role of self-efficacy as a central boundary condition and its implications for resource integration processes and co-created outcomes. Each of the three manuscript studies will now briefly be outlined.

## Study 1

The first study advances the S-D logic perspective by introducing a complementary theoretical framework that enables the foregrounding of actors' embeddedness as the genesis of resource integration in a service ecosystem. Based on an in-depth literature review, this study identifies the key themes of resource integration processes; the roles played by actors as co-creators of value; and the importance of their relational constellations as an essence of their exchange behaviours in service environments. The study conceives the notion of embeddedness within S-D logic by employing the underpinnings of social capital theory, which enables the study to offer a plausible explanation of various mechanisms (such as relational norms, cultural compatibilities and behavioural manifestations) that drive resource integration practices in a service ecosystem.

As such, it is argued that S-D logic and its associated literature propose networks and social structures that are important for understanding the specifics of resource integration in service systems. Nevertheless, the actors' relational constellations are primarily responsible for creating contextual frames within which resource integration occurs. These contextual frames are distinct patterns of relationships that an actor develops and maintains for purposes of accessing and mobilizing relevant resources to generate customized value experiences. The significance of actors' social embeddedness for creating potential opportunities or constraints for facilitating resource integration efforts and for achieving desired individual and collective outcomes at different levels of a service ecosystem are discussed in a comprehensive manner.

To this end, three dimensions of embeddedness are conceptualised: *structural*, *relational* and *cultural*. The individual implications of each dimension for resource integration and the broader S-D logic literature are justified and illustrated in detail. In combination with social capital theory, embeddedness can be seen as a framework that offers an in-depth understanding of actors' embeddedness as well as subsequent benefits for a suite of resource integration practices at various levels: individual (*micro-level*); system (*macro-level*); and service ecosystem (*meso-level*). Resource integration practices—such as mobilisation, internalisation and transformation—are also theorised to expand the portfolio of practices (*access*, *adapt* and *integrate*) offered by Akaka et al. (2012).

## Study 2

The second study contributes to the marketing literature by highlighting the significance of consumers' value co-creation behaviour (VCB) for resource integration processes in service systems. Despite the growing interest of managers in identifying factors that enable facilitation of VCB, empirical research in the area is limited. Therefore study 2 illustrates the significance of VCB (Yi and Gong, 2013) by identifying its antecedents and subsequent outcomes. In doing so, the study converges the three notable concepts of co-creation research - embeddedness/VCB/value-in-context in a *nomological* network. Research that considers embeddedness as an important pre-condition to shape consumers' value co-creation behaviour (Laud et al., 2015) is conceptual in nature. Therefore, the study empirically validates the concept of embeddedness as a key antecedent of VCB. In addition to relevant pre-conditions the study also examines the effectiveness of fostering consumers' value co-creation behaviour by examining three types of value-in-context outcomes.

The proposed model was examined in an online forum of the international weight management company Weight Watchers Australasia; this forum facilitated various co-creation avenues for its members/customers. The firm was chosen for this objective on the grounds of its high-value co-creation in the online forum. Data collection was conducted for a period of four months by facilitating an online survey for the forum members.

In line with S-D logic, this research conceptualises that consumers' outcomes are manifested in contextual frames of service exchange. This study represents more holistic overview of the interdependent relationships between pre-conditions, behaviours and outcomes of the value co-creation processes that exist in service systems. Covariance-based (AMOS) structural equation modelling (SEM) procedures were applied to enable the assessment of the quality and discriminant validity of the variables under investigation. A structural model was specified to examine the hypothesized relationships. The results highlight a significant positive influence of relational embeddedness and cultural embeddedness on value co-creation behaviour. Similarly, the findings suggest consumers' value co-creation behaviour has a significant influence of their value-in-context outcomes. The study contributes to service research by advancing the understanding of the antecedents and consequences of value co-creation behaviour.



### Study 3

The objective of Study 3 is to advance the conceptual and empirical understanding of a key boundary condition that influences value co-creation processes. Realizing the factors that strengthen or weaken interdependent value co-creation processes can assist in building systematic refinements of co-creation models adapted within S-D logic. Extant co-creation literature considers the interpersonal nature of value co-creation processes but marginalizes the role of the intrapersonal factors that determine consumers' effectiveness for resource exchange. Intrapersonal factors are cognitive processes like perceived self-efficacy that regulate consumers' unique abilities to participate in co-creation behaviours and accomplish service exchange tasks within service systems.

Therefore, this study combines socio-cognitive theory with S-D logic to explore the interplay between interpersonal and intrapersonal forces for resource integration processes. In doing so, study 3 investigates a research model that accounts for the interpersonal nature of resource integration by hypothesizing direct relationships between consumers' embeddedness and in service co-creation behaviours. Further, this research model examines the important role played by consumers' self-efficacy as a central boundary condition of value co-creation processes. Extant research discusses self-efficacy as an important factor with regards to various behaviours that actors evoke in their daily lives (e.g. Hsu et al., 2007; Brown et al., 2001; Jones, 1986; Zimmerman, 2000; Halbesleben and Wheeler, 2008). Self-efficacy beliefs regulate human functioning through cognitive, motivational, affective and decisional processes. Differences in high-versus-low self-efficacy actors may lead to greater or lesser abilities to participate in co-creation behaviours.

A total of 202 respondents from Weight Watchers online forum were analysed by using multi-group structural equation modelling. In particular, multi-group analyses were performed to compare the findings from two distinct groups: (high vs. low) self-efficacy. Results suggest that self-efficacy is moderating the relationships between embeddedness and in-service co-creation behaviours. Specifically, consumers with (high vs. low) self-efficacy are more confident in their ability to evoke appropriate behaviours when engaging in co-creation.

## **PHILOSOPHICAL CONSIDERATIONS**

Approaches to social enquiry are concerned with both the logic used to develop new knowledge and with procedures that include philosophical and theoretical ideas about what constitutes social reality and how knowledge of it can be formulated. Social research involves articulating informative ontological and epistemological assumptions that guide the overall adequacy of a study's design, including its methodological choices and theoretical frameworks. Such considerations represent a persistent objective of management and marketing research. Blaikie (2009) clarifies that the significance of understanding philosophical issues can be beneficial to elaborate what kind of knowledge is required to comprehend social phenomena and what implications these issues have for knowledge acquisition. The goal of such inquiries is to provide convincing answers to the questions addressed in research. Therefore, the following sections will reflect upon the ontological and epistemological positions of this research project.

### **Ontological Position**

Ontology can be described as the assumptions that researchers make about the nature of social reality. Social scientists address two dichotomous social realities: one that regards a social phenomenon as having an external existence that is independent from the activities of the researcher, and one that views the external world as mere appearance that has no external existence and is only a creation of actors' thoughts. In other words, is it a phenomenon of interest seen as part of an objective reality whereby researchers can observe events in external reality that are independent of their human minds, and thus can only be known by use of the innate human capacity of thought and reason? Or is it a phenomenon that is part of a socially-constructed reality — a subjective idea that is considered real because the actor believes it to be real through sensations, reflections and impressions (Blaikie, 2009)?

This study takes the position that embeddedness is a core social phenomenon that is a part of an external, definable, observable and measureable reality. Therefore, gathering knowledge (e.g. data) for evaluating the nature of embeddedness represents a reification of the properties of individuals because embeddedness is a mind-independent reality. The notion of embeddedness can thus be viewed as a meaningful social force that has implications for reformulating the broader social phenomenon of resource integration. The phenomenon of interest is assumed to conspicuously exist, independent of the reflections or impressions that

a researcher may have about it. Overall, this ontological stance underlies the research purpose.

### **Epistemological Position**

This section is closely coupled with ontology and its consideration of what constitutes reality. Epistemology considers views about the most appropriate ways to enquire about the nature of the world (Easterby-Smith et al., 2008). Specifically, epistemology deals with the science of method or areas of knowledge relating to how knowledge about the world is acquired. Thus, it provides a philosophical grounding to establish what kinds of knowledge are possible so that the criterion for understanding how knowledge can be construed is both acceptable and valid (Crotty, 1998). In line with the above understanding, this study assumes an objectivistic approach to the pursuit of knowledge of the embeddedness phenomenon. In employing scientific procedures, this study assumes the broad positivistic view that the properties of embeddedness can be observed, and they have an external reality, as do its implications for resource integration. It regards embeddedness as integral to social processes and conceptualizes its existence by perceptually organizing relevant empirical research to test our knowledge against an objective world with specific hypotheses.

The research anchors the concept of embeddedness in a theoretical framework that combines two different streams of literature: organizational and marketing. Drawing on a wider context, the study employs social capital and service-dominant (S-D) logic perspectives, and aligns them to complement each other so that the construct of embeddedness can be explained in a more concrete form. Further, the research integrates concrete realities to develop a distinct understanding of embeddedness and its properties by operationalizing a definition that elaborates its role for resource integration processes as viewed by S-D logic.

Seeking to confirm or disconfirm relationships between the constructs of interest further helps us to better understand phenomena in their nomological contexts and draw conclusions for theoretical and managerial practices. For instance, a quantitative design approach illustrates the potential measurement model for embeddedness and its influence for resource integration processes (e.g. value co-creation behaviour); its implications for the subjects of the study; and under which conditions such consequences might hold. The method this study uses is to ask members of an online forum to complete a survey about their

interactional patterns using pre-defined scaling categories to examine the hypothesized relationships between the variables of interest. Thus, it is assumed that this research strategy is appropriate to generate valuable knowledge.

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## STUDY 1

### **The Role of Embeddedness for Resource Integration – Complementing S-D Logic Research through a Social Capital Perspective**

#### **Abstract**

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Marketing research highlights the importance of individuals' relationships as mechanisms for integrating resources. With its roots in sociology, the concept of embeddedness has gained prominence in the literature on organizations, providing in-depth insight into how relational structures regulate resource integration processes and outcomes. However, the concept of an individual's embeddedness is rarely discussed in association with S-D logic. This limits the extant understanding of factors that influence resource exchange and value co-creation among individuals in service ecosystems. Against this background, this paper links S-D logic with social capital theory to establish and conceptualize embeddedness as a key concept. More specifically, this research identifies and delineates structural, relational, and cultural properties of embeddedness and offers a systematic and complementary theoretical understanding to better explain relational constellations based on actors' resource integration potential. In so doing, this research significantly advances marketing science and particularly the S-D logic school of thought by explicitly clarifying the role of embeddedness and its implications for resource integration. A set of research propositions is presented, laying the foundation for future research.

*Keywords: resource integration, embeddedness, value co-creation, S-D logic, social capital theory*

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## INTRODUCTION

The Nutella brand's Facebook community is often mentioned as a leading example of a successful social media environment (e.g., Wasserman, 2009). The iconic European brand has a consumer-created Facebook community of more than 17 million fans (Socialbakers.com, 2012) who, as *embedded* consumers, co-create value by sharing their "Nutella moments." The greater the number of active members and connections in such communities, the greater the potential for members to access and mobilise mutually relevant resources. For example, community members exchange advice, photos, and videos while contributing to each other's knowledge and brand experiences. Nutella fans interacting in this social structure may even foster a sense of "we-ness" – a community force that (re)creates meaningful cultural resources for community members (Muniz and O'Guinn, 2001). Marketing managers are thus increasingly interested in harnessing the power of social embeddedness through a context that enables community members (both online and offline) to co-create valuable brand moments and brand narratives (Schau et al., 2009).

The phenomenon of an individual's embeddedness is equally relevant to academic inquiry. The paper views embeddedness as "the contextualization of economic activity in ongoing patterns of social relations" (Dacin et al., 1999: 319). Individuals are embedded in social structures that in turn shape relational constellations and value creation processes (e.g., Granovetter, 2005; Grewal et al., 2006; Hess, 2004; Jessop, 2001; Zukin and DiMaggio, 1990).

Although the marketing literature has considered social influences and potential impacts on actors' behaviour (e.g., Dholakia et al., 2004), research related to value co-creation in the context of service-dominant (S-D) logic (Vargo and Lusch, 2004, 2008, 2011a) provides few explicit attempts to explain how the nature of embeddedness can influence resource integration processes and subsequent value creation. Resource integration here refers to actors' interaction with and/or use of resources. The marginal theoretical insights into the role of embeddedness significantly constrain current theorising in marketing associated with S-D logic and value co-creation. Consequently, researchers have called for investigation of the nexus between embeddedness and resource integration, (Akaka et al., 2012: 39): "How do differences in actors' positions influence interaction among actors? Whom do actors rely on for information about what resources are accessible and how to

access them?” Increased interest in the notion of value co-creation points to the need to better understand actors’ degree of embeddedness and the implications of embeddedness for resource integration and achievement of desired outcomes. The aim of this paper is to offer a conceptual framework for enriching the school of thought associated with S-D logic (Vargo and Lush, 2008, 2011; Akaka et al., 2012; Edvardsson et al., 2011, 2012; Chandler and Vargo, 2011; Wieland and Chandler, 2010; Brodie et al., 2011) by elaborating on the role of embeddedness for resource integration processes. This leads to our first research question:

**RQ1:** What roles do social interdependence and, in particular, an individual’s degrees of embeddedness play with respect to resource integration in service ecosystems?

As a major theoretical perspective on value co-creation, S-D logic draws primarily on structuration theory and practice theory to propose mechanisms for resource integration within service systems as contexts and structures of service exchange. While prior research is important, it offers a relatively narrow rationale for supporting and explaining the role of individuals’ embeddedness for resource integration, leaving a significant theoretical gap. Against this background, the paper draws upon social capital theory (Lin, 2001) to enrich and complement the theoretical perspective of S-D logic. In doing so, the study elucidates an individual’s embeddedness as a critical element for understanding resource integration processes.

Social capital theory (SCT) offers important insights into the performance of individuals and the nature of their relationships within social structures (e.g., Bourdieu, 1986; Coleman, 1988; Moran, 2005; Putnam, 2000), which provide an avenue to connect embeddedness and resource integration efforts from a marketing perspective. For example, Lin (2001) argues that (1) resources are embedded in social structures; (2) resources can be accessed through individuals’ relationships; and (3) individuals use or mobilise resources through purposive actions for utility maximization. This understanding complements the view of S-D logic that actors unlock the value potential of resources.

However, S-D logic would benefit from clearer conceptual reasoning with respect to understanding and explaining actors’ resource integration potential based on their embeddedness. Chandler and Wieland (2010) highlight the centrality of embedded relationships to better understand innovation processes. However, Chandler and Wieland



(2010) have not been explicitly and deeply investigated embeddedness in the context of resource integration. Further, the concept of embeddedness and its potential implications for various levels of the service systems are not discussed in a comprehensive manner. The present study argues that SCT can facilitate such theorising, and investigates the second research question:

**RQ2:** How can SCT expand the understanding of resource integration from a theoretical point of view and thereby enrich the S-D logic perspective?

This study thus contributes to marketing theory in several important ways. First, the study uses SCT as a complementary theoretical perspective to illustrate the role of an individual actor's embeddedness for resource integration within a service ecosystem, while building on the emerging dialog in the S-D logic literature. Further, the study introduces and delineates three types of embeddedness – structural, relational, and cultural – which in combination enable a richer understanding of resource integration processes and respective implications. By weaving together social capital and S-D logic perspectives, the study responds directly to a call for research on embeddedness (Akaka et al., 2012) and, more particularly, explores the relevance of different embeddedness types in view of co-created outcomes. Second, the research clarifies the significance of embeddedness and respective social constellations in influencing different resource integration mechanisms and practices. For example, the study discusses resource mobilisation, internalisation, and transformation as important resource integration practices in the context of embeddedness. To date, the literature has simply subsumed these practices under resource access rather than investigating the concepts individually and illustrating their discrete importance in view of actors' embeddedness. Third, the study shows how individual-level embeddedness can affect system-level phenomena within a service ecosystem. Individuals are potentially embedded in multiple service systems, and their embeddedness across these systems has implications for their resource integration potential. Fourth, a set of propositions to encourage empirical studies of individuals' embeddedness as well as an extensive research agenda for future investigation are offered. Overall, the study demonstrates that the intersection of SCT and S-D logic provides insights that lead to an advanced understanding of resource integration in service ecosystems, and argues that SCT should play a more prominent role in supporting S-D logic research.

The remainder of this paper is structured as follows. The paper begins with the review of the literature related to resource integration and social structures linked to S-D logic. It is followed by a conceptual framework that links SCT and S-D logic through the concept of embeddedness. Finally, a set of propositions are developed related to embeddedness for informing future research.

## **LITERATURE REVIEW**

### ***S-D logic as a perspective for resource integration in service ecosystems***

S-D logic argues that individual actors interact with each other and with various resources to improve their own circumstances (or well-being) and, in doing so, to improve the circumstances of others through mutual service provision (Vargo and Lusch, 2008). Service, enabled through the interaction with and integration of resources such as knowledge and skills, is the fundamental basis for competition (Lusch et al., 2006). Firms accordingly strive to facilitate and enhance resource integration processes to enable better service and valued experiences (Karpen et al., 2012).

Recent advancements in S-D logic maintain that resource integration processes unfold in the context of service systems (e.g., Akaka et al., 2012; Kleinaltenkamp et al., 2012; Wieland et al., 2012). The latter can be seen as dynamic exchange structures consisting of interactions among people, organizations, and technology (Spohrer et al., 2007). Building on the understanding of service systems, recent S-D logic literature proposes to investigate resource integration in the context of systems of service systems, also here referred to as service ecosystems (Vargo and Akaka 2012). Vargo and Akaka (2012: 207) draw on a definition of service ecosystems as “relatively self-contained, self-adjusting systems of resource-integrating actors connected by shared institutional logics and mutual value creation through service exchange.” Importantly, service ecosystems refer to interdependent structures of social and economic interactions for mutual service provision and build the foundational context for the remainder of this study.

The proposed service ecosystem and social structure view of value creation in S-D logic (e.g. Edvardsson et al., 2012) places connections between resource integrators in a primary position, as resource integration and service provision become possible only when

individuals in a service system are connected to and engage with each other. To apply their competencies and integrate resources, individuals need access to relevant resources, which they often acquire from social relationships in their broader social structure. Currently, two perspectives prevail on the role of relationships of resource integration in service systems – one linked to Giddens’ structuration theory and one linked to network theory. These views offer a useful vantage point.

Structuration theory offers a theoretical framework for understanding the integration of human agencies with the emergence and existence of structures in social reality; an extensive tradition of research has driven the development of this theoretical stream. Two important proponents of structuration theory are Giddens (1976, 1984, 1993) and Bourdieu (1972, 1990, 1991), who have offered different theoretical lineages that form the basis of modern sociology that studies the synthesis of structure and agency effects.

In contrast, network theory is a contemporary paradigm of modern sociology with roots in schools of functionalism and structuralism. Network theory offers a systematic analytical perspective on relationships between social entities. By identifying influential patterns that unravel network dynamics, the theory facilitates the investigation of social structures. Network theory conceives relational patterns (e.g. tie strength) and propagates their impact on both agency-level and system-level outcomes. Despite its benefits in terms of understanding relational patterns and their impact, network theory has been criticized as overly simplistic and underestimating or insufficiently accounting for human or inter-relational qualities (El-Sayed et al., 2012; Helbing, 2012; Smith, 2010).

In the following section structuration and network perspectives currently informing the S-D logic literature are discussed. These two perspectives are frequently used to support S-D logic research in illustrating the significance of actors and their relational constellations for resource integration process and outcomes. However, the study draws on and identifies important limitations to argue for the need of an embeddedness perspective informed by SCT. The latter has the potential to offer a more holistic framework to understand and theorise about the importance of individuals’ relationships. In doing so, the paper outlines and justifies the interactional and interdependent character of resource integration constellations within service ecosystems.

## **Resource integration through S-D logic and Giddens' structuration**

The concept of “structuration” in the sense that is specific to Giddens' structuration theory involves thinking of objectivity and subjectivity with respect to the formation of structures (Giddens, 1984). Giddens' view of structuration links structures and human actions causally. The main argument of his structuration perspective is that dominant human actors are responsible for (re-)creating social structures. In the context of S-D logic, these dominant actors are viewed as “resource integrators” through which value is actualised. More precisely, Giddens' structuration perspective focuses on dominant agencies and individuals and not on their social relationships and their implications for resource integration. As the main theoretical anchor for this reasoning, structuration theory holds that societal rules and norms recursively shape cognition, causing dominant individuals in the structure to behave in such a way that they (re)produce social structures.

Social structures and human actions can be classified into three dimensions – signification, domination, and legitimisation, which form the key proposition of this perspective (Giddens, 1984). When interacting with each other, individuals such as customers or employees draw on structural guidelines to make sense of their actions. At the same time, their actions modify the social structures that provide meaning or significance.

Linking S-D logic with structuration theory has yielded a framework to suggest that individuals draw on interpretive norms and rules to create a structure of significance (Edvardsson et al., 2012). An individual actor in a dominant position within a service system can exercise power to control resources, thereby creating a structure of domination. Likewise, individuals refer to social norms to legitimise their resource integration actions and value creation as well as their creation of a structure of legitimisation. For example, if a significant number of fans in the Nutella community share their Nutella moments by posting photos of themselves enjoying Nutella, community members might think that to display their love for Nutella, they should post Nutella-related photos, thereby creating a structure of significance. Similarly, a highly active Nutella fan who continually posts and generates many followers (including “likes” and “shares”) in the Nutella community might become a central actor who exercises power to influence others, thereby creating a structure of domination. Finally, Nutella fans participating in communal events such as photo sharing or Nutella fan gatherings

can legitimise their acts by referring to others who are doing the same, thus creating a structure of legitimisation.

Although Giddens' structuration perspective is useful in many ways, it falls short in explaining the role of social relationships that represent an individual's level of social embeddedness. As an interconnected pattern of commensurate social relationships, an actor's embeddedness shapes behaviours and actions, thus expanding or constricting the processes and outcomes of resource integration (Smith and Stevens, 2010). Despite Giddens' valuable perspective of structuration theory, the established framework does not provide sufficient understanding of how actors assume social group memberships and social roles and positions within a structure that may influence their value (co)creation efforts. Understanding the underlying structural forces, such as group memberships and the significance of enabling social roles, can offer invaluable insights into the resource integration process in service systems. Social roles impart power and authority and can create inequalities (Moody and White, 2003) in resource distribution in service ecosystems. Social roles are embedded within social structures (Granovetter, 1985) and are drawn upon as important resources in value co-creation (Akaka and Chandler, 2011).

Giddens' proposition of domination, whereby the operation of dominant relationships relies on the compliance of subordinates, simply places limits on the feasible range of options available to individuals in a structure (Thompson, 1989). Research suggests, however, that an actor cultivates different types of dominant and weak social relationships, as each type may possess more or less potential to offer some kind of resource that the actor considers valuable. Importantly, from a resource integration standpoint, Giddens' idea of dominant individuals does not clarify the role of other or non-dominant individuals in (re-)creating social structures and value co-creation. In turn, this lack of clarity limits the potential of S-D logic for understanding and explaining contingencies associated with social and economic individuals as resource integrators.

Moreover, it is unclear how an individual actor gains a dominant position in the service structure, although social network scholars have empirically demonstrated how an individual's structure of relationships contributes to gaining dominant positions in structures (Burt, 1980; Carrington and Wasserman, 2005; Reingen and Kernan, 1986; Wasserman and Faust, 1994). There is also a lack of clarity as to how dominant individuals develop

themselves into knowledgeable beings as portrayed by Giddens. Individuals' knowledge-building competencies are highly dependent on their environment (Cohen and Levinthal, 1990) that comprises other *operant* (e.g. social relationships) and *operand* (e.g. materials – mobilised by other actors) resources.

In the context of S-D logic's structuration perspective, the explicit link between *operant* and *operand* resources with Giddens's (1984) authoritative and allocative resources is limited. This relates, for example, to how authoritative resources as operant resources manifest control over other social actors and relationships through structures of domination, in order to subject them to actions of resource exchange or usage. Allocative resources, on the other hand, involve control over tangible and more static resources such as materials (rather than humans), which the paper refers to as operand resources from an S-D logic perspective. In a business context, for instance, a manager has authoritative power over his/her subordinates and influences their potential resource integration at work (e.g. which resources are to be used for which tasks). Similarly, dominant customers might have an advantage over suppliers in business markets and determine resource exchanges and resource forms. In the hotel or leisure industry, quality material that has been used to build a hotel is important because customers interact with and use respective resources during their stay, using allocative power. As resource integrators with allocative power, customers thus act upon (access, mobilise, transform, etc.) other resources.

In contrast to Giddens' structuration perspective, Bourdieu's (1979) thinking of structuration emphasizes the importance of individuals' positions in social groups for accessing resources in a structure. Bourdieu believes that every human actor is positioned within social groups and classes that compete with each other for resource access and usage. Bourdieu's (1990) structuration philosophy highlights the importance of every individual being the creator of her/his own 'experience' in a unique manner. The experience is guided and replicated through patterned structures that are developed during socialization. Thus, Bourdieu places great importance on closely knitted social groups that exercise power and authority to modify resources, exchange processes, and structures. Bourdieu's structuration argument, in which all human actors are the creators of their personalized experiences and no dominant actor is single-handedly responsible for the (re-)formation of structures, resonates conceptually with S-D logic (S-D logic premise nine: *the customer is always a co-creator of value*). Further, Bourdieu (1985) views the societal rules and norms that Giddens (1984)

observes for guiding the actions of individuals as patterned and routinized ways of operations called *practices*. Practices are used to accumulate resources, create experiences, climb the social hierarchy, and gain powerful social roles and positions. In context of S-D logic, Edvardsson et al; (2012) draw on Bourdieu's understanding of practices to analyse activities and interactions in service systems. This linking of practices with interactions does not account for how individuals, along with social relationships, precisely create, preserve, and exercise practices for value generation. Nevertheless, Bourdieu's structuration perspective advances that of Giddens (1976) in uncovering the interplay between individuals, social groups and the effects for resource integration and structure formation. Yet this perspective still falls short in discussing actors' embeddedness in terms of revealing relevant interactional properties and relational constellations as mediators for resource integration processes and outcomes.

Finally, Archer (1979) argued that Giddens' (1976) structuration theory dissolves the differentiation between agencies and structures. Eliminating this differentiation makes practical social analysis difficult. Archer argues that Giddens' amalgamation of structures and agency removes the possibilities of analysing their historical relations, whereby Giddens neglects the impact of past relationship experiences on future relationship interpretation and behaviour. "Neither structure nor agency have independent or autonomous features" (Archer 1996: 687). Archer therefore asserts that Giddens' structuration approach does not explain how changes in individuals' structural arrangements may change their potential to access resources, thereby constraining or increasing their freedom to act. Archer (1982) reinstates the distinction between structure and agency by developing the perspective of the 'emergence of structures'. Archer's view of structuration involves

an image of society, not a series of acts, but as continuous flow of conduct which changes or maintains a potentially malleable social world. In turn it obviously proscribes any discontinuous conceptualisation of structure and action – the intimacy of their mutual constitution defies it... Structuration itself is ever a process and never a product. (1982: 457; 1990: 75)

Within this emergence-of-structures-perspective, Archer (1979) argues for the significance of exchange processes, resource flows, and continuity across social structures, by focusing on structural, relational, and cultural conditions of emergence and (re-)creation. These conditions are specifically relevant from a resource integration perspective consistent with S-D logic and include: 1) structural-like roles; for example, social roles and social positions limit an

individual's access to resources; 2) cultural conditions as a propositional register of theories, beliefs, and values that pre-exist. That is, cultural conditions (e.g. norms) specify what is acceptable or unacceptable resource integration behaviour; and 3) agential conditions such as individuals or groups exchanging transactions based on the ability of sensing, responding, transforming, and using resources through the focal actors' knowledge and skills. These three conditions are viewed as drivers for new conditions of exchange and resource integration, thereby reconfiguring structures. In line with the notion of emergence, Akaka and Chandler (2011) discuss the significance of the flow of resources from an individual level to ecosystem level as important factors for the reforming of service ecosystems. While Archer's (1979) contemplation on Giddens has been important in understanding the dynamics of resource flows across structures, it falls short in reflecting on the nature of social relationships, particularly of embeddedness as a means to exchange processes within sustainable structures.

In summary, structuration theory perspectives represent an important contribution in terms of unveiling the significance of agencies and actors for resource integration. However, limited potential exists for building a robust theoretical framework that clarifies the role of actors' embeddedness while illustrating the essence of interdependence in resource integration processes and constellations, as proposed by S-D logic.

### ***Resource integration through S-D logic and the network perspective***

Akaka et al; (2012) employ a network-centric approach along with S-D logic to shed light on how individuals and their relationships form networks that act as mediators for resource integration. The network approach is grounded in the premise that actors or entities are connected through patterns of social relationships in a social space (Burt, 1980). These inter-relational patterns are concrete and measurable. The network approach views social relationships in terms of nodes and ties, where actors are the nodes and the relationships between actors form the ties. Actors activate their social ties to access resources from each other and achieve their goals (Knoke and Yang, 2008). Applying the network perspective, Akaka et al; (2012) reflect on the embedded nature of relationships and focus on how value is driven by the individual's ability to access, adapt, and integrate resources through routine practices within networks.



Resource access is the act of drawing available resources from the network in which an individual is situated (Akaka et al., 2012). To accelerate resource accessibility, firms may examine individual actors' positions in the network and then attempt to influence interactions between these individuals. An important community position can be conceptualized in terms of centrality, a measure derived from social network analysis (Chandler and Wieland, 2010). Centrality is the extent to which an actor is connected to others in the network (Borgatti et al., 1998), and it significantly facilitates resource access.

Resource adaptability, on the other hand, is an act of self-customization that draws resources to match their contexts (Akaka et al., 2012). During self-customization, customers are invited to co-produce individualised offerings. Systems such as Facebook, for example, offer members various options to self-customize or adapt their profile pages to suit their values and desires. Lastly, resource integration is the act of combining the accessed (or even adapted) resources and applying them to realize value. From a theoretical point of view, this breakdown of practices related to resource integration (access, adapt, and integrate) helps differentiate value co-creation while it is occurring. Moreover, such a delineation assists in identifying practice-related strengths or weaknesses (driven by the service design and human constellation) that a firm could prioritize to improve or leverage into better mutual outcomes. For example, as embedded entities in service systems, firms may facilitate resource integration and value co-creation processes by enhancing bonding among network partners (Akaka and Chandler, 2011).

Scholars believe that a useful undertaking is to reveal how resource integration transpires in different contexts, such as through the individual or micro-level contributions to the service (eco) system or the meso- and macro-level activities. This perspective emphasizes that value as a resource integration outcome at the micro-level (between two actors) can morph into a macro-level benefit (between all or many involved actors at the collective system level). A theoretical explanation of this phenomenon appears in the seminal work on the strength of weak ties (Granovetter, 1973, 1983), which illustrates the interdependence of actors' resource integration at different levels and contexts. Research into word-of-mouth, for instance, has inspected the occurrence where connections among networked individuals contribute to the distribution of information in consumer networks (e.g., Goldenberg et al., 2001).

While network-based insights enrich S-D logic research, theoretical ambiguity persists with respect to how individual actors' embeddedness affects resource integration efforts in a service ecosystem. At times, network theory has attracted the criticism of being overly narrow in portraying human actors as 'nodes' and relationships between these nodes as 'links', neglecting relational norms and agentic properties (e.g. intentionality, motivation, self-reactiveness, self-reflectiveness), (Bandura, 1986). In other words, network theory does not account for agent-based modelling and the various natural capacities and abilities of humans; such as that humans are able to cause their own acts and have the potential to mobilise their beliefs, interests, and emotions with a significant degree of free will, driving certain courses of action (El-Sayed et al., 2012; Helbing, 2012; Smith, 2010).

Although the S-D logic literature has initiated and implicitly highlighted the significance of embeddedness in its preliminary work (Akaka et al., 2012; Chandler and Wieland, 2010), a comprehensive and explicit discussion of embeddedness and its role in the resource integration process has not been undertaken. First, sociology scholars argue that networks and behaviours cannot be studied independently, because they are formed by continuing social relationships (Castro and Roldán, 2013). The structure of social relationships in which an individual is entrenched creates and maintains contexts that lead to relational norms, such as trust and commitment that motivate individuals to continue sharing resources. However, the current S-D logic view of networks and systems does not sufficiently address how in a partnership such norms materialize through the degrees of embeddedness among resource integrators.

Second, the value co-creation literature contains few insights into the different types of embeddedness as properties of a structure in which individuals are integrated, as well as how these properties contribute to individuals' unique opportunities and constraints in actualizing resource integration in a service system. The properties can have both descriptive and normative outcomes (Semrau and Werner, 2013) and can support the understanding of resource integration processes. The broader nature of this knowledge gap has been usefully summarized as follows:

We need to understand the various ways in which firms as collective individuals and various individuals or groups of them are embedded, and the ways in which these different embeddednesses are related to economic outcomes, both at the level of firms and their spatial environments.... Empirical studies are needed to open up the richness

of “embeddedness” in comprehensive studies ...to reveal the processes through which economic action and outcomes are affected by “embeddedness”. (Oinas, 1997: 30)

Primary discussions in the service literature related to embeddedness aim to understand information-seeking processes for innovation in a service system (Chandler and Wieland, 2010). Despite the discussion of how embeddedness produces community norms such as solidarity, mutuality, flexibility, role integrity, harmonization of conflicts, or power restraints (Achrol, 1997; Ivens and Blois, 2004; Kaufmann and Dant, 1992), the understanding that these norms probably influence individuals’ resource exchange efforts is missing. Furthermore, how individual actors gain access to an actual or potential spectrum of resources by means of resource practices in a network is unclear.

Moreover, the current network view does not explicitly recognize numerous resource integration practices beyond access and adaptation that may be occurring during resource integration. However, simply having access to a partner’s resources may be insufficient for resource integration to occur, as intentions to mobilise resources are vital. The intention to mobilise is an individual’s motivation for participating in resource exchange activities. While mobilisation of resources has the potential to lead to reciprocity and commitment to continuous resource trade in communities, the question of how embeddedness contributes to the commitment of mobilizing resources has not been examined, although researchers have been encouraged to elaborate on the implications of mobilizing behaviour between the focal customer and mobilised stakeholders (Jaakkola and Alexander, 2014).

Similarly, the practices of resource internalisation and transformation may be crucial to successful resource integration. Internalisation is the transition from explicit to tacit knowledge (Nonaka and Tagueushi, 1995) in a way that will assist individuals in conforming and interpreting their socialization tactics. In the context of resource integration processes, internalisation informs the understanding of an individual’s ability to elicit and enact appropriate resource integration during a value co-creation behaviour episode. Embeddedness facilitates this process by exposing market actors to a multitude of configurations, on which they draw to interpret actions (Coleman, 1987; Weir and Hutchings, 2005). While transformation can be described as assimilation of resources to create a new form of relevant resources for resource integration, transformation occurs through recognizing the importance of resources such as knowledge that are potentially embedded in social relationships and assimilated to develop new resources.

Lastly, the social exchange of resources calls for a shared understanding and shared interpretation of rules, values, norms (“institutions”; Vargo and Akaka, 2012), and beliefs that individuals in a structure are expected to have. Such common understanding drives the social practices that lead to resource exchange (e.g., Edvardsson et al., 2012; Giddens, 1984). The level of shared understanding helps explain how likely individuals are to access, mobilise, internalise, adapt, transform, and apply the variety of resources available to them while considering institutional rules. However, the network view does not specifically explain this phenomenon (Akaka et al., 2012). Although the management literature provides significant insight into embeddedness as a useful construct for inter-organizational networks and outcomes (Vinhas et al., 2012), research on embeddedness in the context of S-D logic is insufficient and narrow. This insufficiency offers marketing scholars the opportunity to significantly advance the understanding of individuals’ embeddedness in service ecosystems as a source of (1) social control for resource access (Sporleder and Moss, 2002); (2) social support through strong relationships, leading to intentions to activate resources (Hallin et al., 2011; Lin, 2001); and (3) external resources (from outside the group or system) as a mechanism for innovative knowledge transfer (Ardichvili et al., 2003).

## **THEORETICAL FRAMEWORK AND CONCEPTUAL FOUNDATION**

### ***Social capital theory and embeddedness – a theoretical perspective for resource integration***

The concept of embeddedness offers an opportunity to better understand how to operationalize the mechanisms underlying the access and mobilisation of resources to generate desired outcomes. Embeddedness here is broadly defined as the set of social relationships between economic and non-economic individuals (individuals as well as aggregate groups of individuals or organizations), that in turn creates distinctive patterns of constraints and incentives for economic action and behaviour (e.g., Hess, 2004; Jessop, 2001; Zukin and DiMaggio, 1990). Social relationships are dynamic, and their constitution defines individuals’ contexts and dictates potential opportunities (Granovetter, 1973).

Embeddedness provides an understanding that structures do not spring up merely to fulfil an economic function, but rather independently affect the functioning of economic systems through their history and continuity (Coleman, 1988). Embeddedness results from the time invested in establishing and maintaining relationships, and it is basically a rational

explanation for the logic of exchange that creates, motivates, and promotes coordinated adaptation of resources to achieve value outcomes (Granovetter, 2005). According to this logic, individuals act in a way that enables them to cultivate long-term, covenantal relationships, which have both individual and collective levels of benefit (Hallin et al., 2011). Embeddedness has emerged as an ally for economic theory and sociological approaches to organization theory (Granovetter, 1995; Polanyi, 1957; Schumpeter, 1957). Accordingly, organizational and sociology scholars have adapted an SCT framework to explain the effects of embeddedness in several organizational settings (e.g., Gulati, 1998; Gulati and Gargiulo, 1999; Moran, 2005; Naphiet and Ghoshal, 1999; Spollder and Moss, 2002; Portes, 1998; Zukin and DiMaggio, 1990).

SCT is a neo-capital theory with roots in the structuration tradition. Essentially, social capital theorists have combined key aspects of structuration developed by Bourdieu (1979), Archer (1979), and Schultz (1967) with Marx's (1906) classical theory of capital, resulting in "social capital theory" to offer an understanding of how investments in social relationships lead to or support expected outcomes. This general definition is consistent with various renditions by scholars who have contributed to the evolution of SCT. Two core dimensions of SCT concern how actors access and use resources embedded in social networks to gain value. At the relational level, the focus is on investments in developing social relationships and leveraging the embedded resources to generate value. The focal issue of the second dimension of SCT represents value at the group level and how groups maintain more or fewer group-level assets that enhance or constrain their value-generating opportunities.

Although scholars agree on the conceptual development of social capital, the debate around its analysis leads to contrasting views. For example, Bourdieu suggests the rise of dominant classes and explains the generation of value in a system as emanating from closed groups with powerful social positions and strong links to each other. Overall, Bourdieu enriches SCT by describing practices that explain how different forms of capital (human, cultural, etc.) are manifested in structures.

While Bourdieu's contribution to the development of SCT is significant, Coleman (1988) argues that marginalizing non-powerful actors of a system fails to account for the mobility of resources from one group to another. To explain how interactions occur through the development of trust, norms, sanctions, and credibility, all individuals or system members

must be included. Similarly, other scholars have highlighted the importance of loose social ties that can act as important bridges in networks, facilitating or hindering information flows, with weak ties serving as sources of new information and innovation, thereby offering a relative advantage in competing resource-driven service systems (Burt, 1992; Granovetter, 1975).

Overall, underlying SCT is the significance of how an individual's resources in the form of in-group and out-group relationships are maintained to capture the returns for the individual who is linked to a specific action. The debate concerning close-knit or loosely knit groups has led to a contemporary perspective of SCT that better explains how individuals draw on their social contexts, personal motivations, relational norms, practices, and system rules, and how these factors influence their value generation (Lin, 2001). This theoretical perspective overcomes the limitations of a network approach by providing richer insights into relational constellations and conditions. For instance, SCT offers explanations for how and why relational norms such as trust and reciprocity emerge, and describes the logic behind offering social credibility, mutual recognition, and intentions of continued resource exchange between partners. Development of power, authority, and social roles accordingly determine what access individuals have to resources, how individuals develop their capacities to become enviable resources, and why individuals invest in generating collective value (public assets) without expecting rewards. This study argues that Lin's version of SCT is a more coherent, consistent, and refined conceptualisation of SCT drawn from prior structuration ideas (e.g; Archer, 1995; Bourdieu, 1979; Coleman, 1988; Granovetter, 1995; Johnson, 1960; Schultz, 1967).

Lin's (2001) SCT perspective rests on three assumptions that connect structure with individuals' action: (1) resources are embedded in social structures; (2) resources can be accessed via social relationships; and (3) individuals use or mobilise these resources through purposive actions for utility maximization. Importantly, as an individual's embeddedness drives the accessibility and mobility of resources to generate value, mobilisation is a critical process of resource activation during interaction (Lin, 2001). To be precise, individuals are guided by their motivations to gain resources, and the propensity to gain resources leads them to regulate their actions and thus invest in more or fewer social relationships, influencing the nature of their social relationships in the system. This motivation is driven, for example, by

the need to gain instrumental outcomes (functional values) or expressive outcomes (mutual trust, empathy, intimacy, and more).

From an SCT perspective, embeddedness accounts for comprehensive knowledge related to who knows whom and how well one knows people in a system. This knowledge is significant for SCT in explaining where and how the investment in social relationships (resources) is occurring and influencing individuals' specific actions for articulation of specific values. This view is in line with the proposition that to understand how a relationship can be drawn upon as a resource, one should view the relationship in the context of other relationships in which it is embedded (Lusch et al., 2010). *If embeddedness as a concept is important to S-D logic, as prior literature points out (e.g., Akaka et al., 2012; Chandler and Wieland, 2010), then the path to advancing its significance for S-D research is through the lens of SCT.* Put simply, SCT is the only theoretical framework that considers and leverages the concept of embeddedness into its conceptual DNA.

Embeddedness represents more than an emphasis on the relational nature of resource integration processes. It highlights how contexts influence individuals' resource integration efforts and outcomes in marketplaces. Beyond its significance in explaining individual-level resource integration, embeddedness is important to a broader ecosystem, where various service systems connect to each other in specific relational configurations that can be instrumental or detrimental to their effective operations and sustainability. Embeddedness without SCT acts as a mere functional entity that narrates one end of the resource integration story. The SCT perspective on embeddedness offers a theoretical foundation for unravelling mechanisms of embeddedness and connecting embeddedness to a resource integration perspective associated with S-D logic. For this purpose, this study first delineate the dimensions of embeddedness and subsequently link them with resource integration.

### **Dimensions of embeddedness**

Research in disciplines other than marketing suggests the importance of distinguishing between and accounting for structural, relational, and cultural dimensions of embeddedness, as these three dimensions contribute to unique outcomes that can influence resource integration efforts (Dequech, 2003; Moran, 2005; Zukin and DiMaggio, 1990). Meanwhile, marketing researchers have concentrated on structural (Czepiel, 1974 ; Watts and

Dodds,2007) and relational embeddedness (e.g., Chein et al; 2012; Gemunden et al; 1997; Hakansson and Snehota, 1995, 2000; Johanson and Mattsson, 1987; Kaufman et al., 2006; Zafeiropoulou and Koufopoulos, 2013), largely neglecting the nature and explicit role of cultural embeddedness.

***Structural embeddedness*** In this research context, structural embeddedness refers to the total number of connections (social relationships) an individual has in his/her networks (Burt 1980; Gnyawali and Madhavan, 2001; Gulati and Garigiulo, 1999). As SCT suggests, an actor's total network size accounts for that actor's aggregate potential to access and mobilise resources efficiently for generating value. SCT further proposes that in situations of uncertainty, individuals legitimise their actions by referring to their associations with membership groups. Gaining membership to social groups is associated with achieving self-identity and having empathy with others who face similar circumstances. Further, structural embeddedness is attributed to the hierarchy of social positions and social roles that individuals possess. SCT suggests that in this context, social position carries significant power and control of access to resources by the less powerful in a structure. Individuals in power positions can thus draw unique benefits. Inequalities are created owing to hierarchical positions that produce dependence and power differentials among the exchange partners (Skvoretz and Willer, 1993). For example, an individual's location in his/her organization's formal/informal hierarchy shapes access to and control over resources, and thus affects positive or negative evaluation of the person's experience in workplaces.

From a resource integration perspective, customers' structural embeddedness directly influences their access to resources within and across service systems. For instance, the extent of a customer's network determines the associated resource potential. Greater structural embeddedness gives access to a larger and more diverse volume of resources that individuals can mobilise to create value-in-context. Additionally, network size can predict individuals' location, social position, and social roles within the network. For instance, an actor in a key social position can derive and/or distribute significant benefits from giving access to a constellation and variety of resources to others in the system (Coleman, 1988).

***Relational embeddedness*** Relational embeddedness refers to the quality of personal relationships, such as strong and weak ties (Granovetter, 1992). Studies in marketing have shown how relational embeddedness is productive and governs trust as well as the norms of



mutual gain and reciprocity in building better supplier relationships (Larson, 1992). According to SCT, relational quality emerges via mutual actions between individuals due to the duration and intensity of shared experiences between them. SCT further views relational embeddedness as an investment in relationships with intentions of long-term collaboration. Putnam (2000), an influential theorist of SCT, suggests that “generalized trust” is an important reservoir that leads to commitment to individual and collective goals. The accrual of trust through frequent interactions and relational quality facilitates access to resources and also motivates their mobilisation. Relational embeddedness can thus be the basis of memberships, associations, and co-operations that enable smooth functioning of groups, systems, or a society at large (Iacobucci and Hopkins, 1992; Yamagishi et al., 1998; ). Whereas structural embeddedness determines the extent and range of resources that are within an actor’s reach, relational embeddedness establishes how much of this potential is likely to be realized. In other words, the quality of social relationships influences which resources that are within reach are likely to be accessed, and to what extent mobilised. For instance, although a manager may have access to several people who are potentially critical sources of information, strong ties and the quality of past interactions will often influence the manager’s choice of whom to approach and engage with. The same principle applies to customers who might select a specific service provider or salesperson over another. SCT refers to this motivation as mobilizing resources or preserving existing resources for instrumental (functional) gains or expressive gains (affection, empathy, altruism, collective good), or to expand existing resources. From an S-D logic perspective, understanding resource integrators’ relational embeddedness depends on knowing specific exchange partners’ degree of closeness. Enabling and encouraging relational embeddedness thus facilitates important pathways to resource exchange and co-created experiences.

***Cultural embeddedness*** The concept of cultural embeddedness is critical to the acknowledgment of the significance of culture as a social force for influencing behaviours in a social context (Akaka et al., 2013; Cova and Dalli, 2009; Dholakia et al., 2004; Dequech, 2005; Edvardsson et al., 2012; Kim et al., 2008; Muniz and O’Guinn, 2001; Oinas, 1997; Zukin and DiMaggio, 1990). Culture influences the specific frame of action or logic that individuals apply in specific market situations (Dequech, 2003). The value of being culturally embedded is clearly apparent in the literature of knowledge sharing, transfer, and management in cross-cultural business settings (e.g., Weir and Hutchings, 2005) and in the mechanics for amplifying regional economic growth and level of innovation (e.g., Ruef,

2002). Hence, cultural embeddedness is a major mechanism for constituting the behaviour of firms and individuals through socially constructed cultural norms, values, beliefs, and evaluation criteria that condition value perceptions for all entities nested in a social structure (James, 2007).

Recently, Akaka et al. (2013) have conceptualized value-in-cultural-context as a collection of practices, resources, norms, and meanings that frame the co-creation of value and guide the evaluation of an experience. SCT, which also emphasizes the importance of rules and other cultural symbols for interpretation of practices, assists in extending the concept of individuals' cultural embeddedness.

Since service systems and social structures are interdependent, individual actors interpret practices through a learned repertoire in their social field. Individual actors develop an understanding of the rules, appropriateness, conducts, beliefs, and symbols that emerge and frame appropriate interpretations of resource transactions between individuals (Weir and Hutchings, 2005; Zukin and DiMaggio, 1990). This development requires shared understanding of these forces for individuals to co-create meaningful value through legitimizing their exchange practices in a system. Accordingly, individuals' social relationships are instrumental in helping them to understand and draw on cultural forces and evaluate value. Cultural symbols act as resources that are valued and generated collectively as public goods. Obligations to observe guidelines or cultural forces of operations provide better access to resources and impart consensus and directionality to individuals' actions. For example, members of a customer community are likely to comply with community guidelines or moral codes of conduct, as they otherwise risk being isolated or penalized by community or moderator reactions. In such a case, a customer would lose access to the potential for mobilizing invaluable community resources. On the other hand, rewards are given to those who demonstrate a high degree of compliance with rules or values via practicing transactions or entering social contracts through cultural symbols. SCT suggests that internalisation of rules of collectivity is important to generating future relationships or assuming authority positions on behalf of the collective.

In the following section, to consolidate the embeddedness argument, the instrumental role of structural, relational, and cultural embeddedness in resource integration processes is examined. This study relies on SCT, by illustrating the complementarities to S-D logic, and

advances its theorising in marketing by way of leveraging the notion of embeddedness in resource integration contexts.

### **Enriching resource integration through embeddedness**

In this section the proposed conceptual framework and several research propositions are discussed. Figure (1) diagrammatically represents the framework. A service ecosystem perspective is taken to illustrate the argument of how the embeddedness of individuals plays a critical role for resource integration and value co-creation. The service ecosystem approach advocated by the S-D logic school of thought emphasizes the importance of understanding the mechanisms of value creation and exchange by multiple actors within and across service systems. Combining the theoretical understanding offered by S-D logic (Vargo and Lusch, 2008; 2011) and SCT (Lin, 2001), this study proposes interdependencies between actors' embeddedness and the broader service ecosystem.

Actors interact with each other to access and mobilise resources, attempting to solve local problems and/or achieve desired outcomes while being dependent on their embeddedness (structural, relational, and cultural). Regardless of the types of relationship actors have with their exchange partners in a service ecosystem (e.g. market relationships or hierarchical relationships, as stated by Granovetter (1985); or market-facing or non-market-facing relationships, as stated by Vargo and Lusch (2011); actors integrate resources through an inevitable promise of interaction or reciprocation for the purpose of accessing and mobilizing resources. As SCT suggests, underlying these relational contracts for exchanges are actors' motivations of preserving and expanding resources to support their well-being (Lin, 2001). This understanding resonates with the service ecosystem perspective whereby actors have some degree of agency, and it is the agency (e.g. motivation) that allows them to take action and shape the ecosystem actors and their social relationships inhabit. Actors accordingly engage in purposive actions and draw on resources from nested subsystems or overlapping systems. Every interaction or exchange between actors and their social relationships has the potential to change their degree of embeddedness in these systems and potentially eventuates in service ecosystem dynamics.

Individuals can be embedded in multiple service systems at a given time. Multiple memberships and thus cross-system embeddedness offer unique opportunities to draw

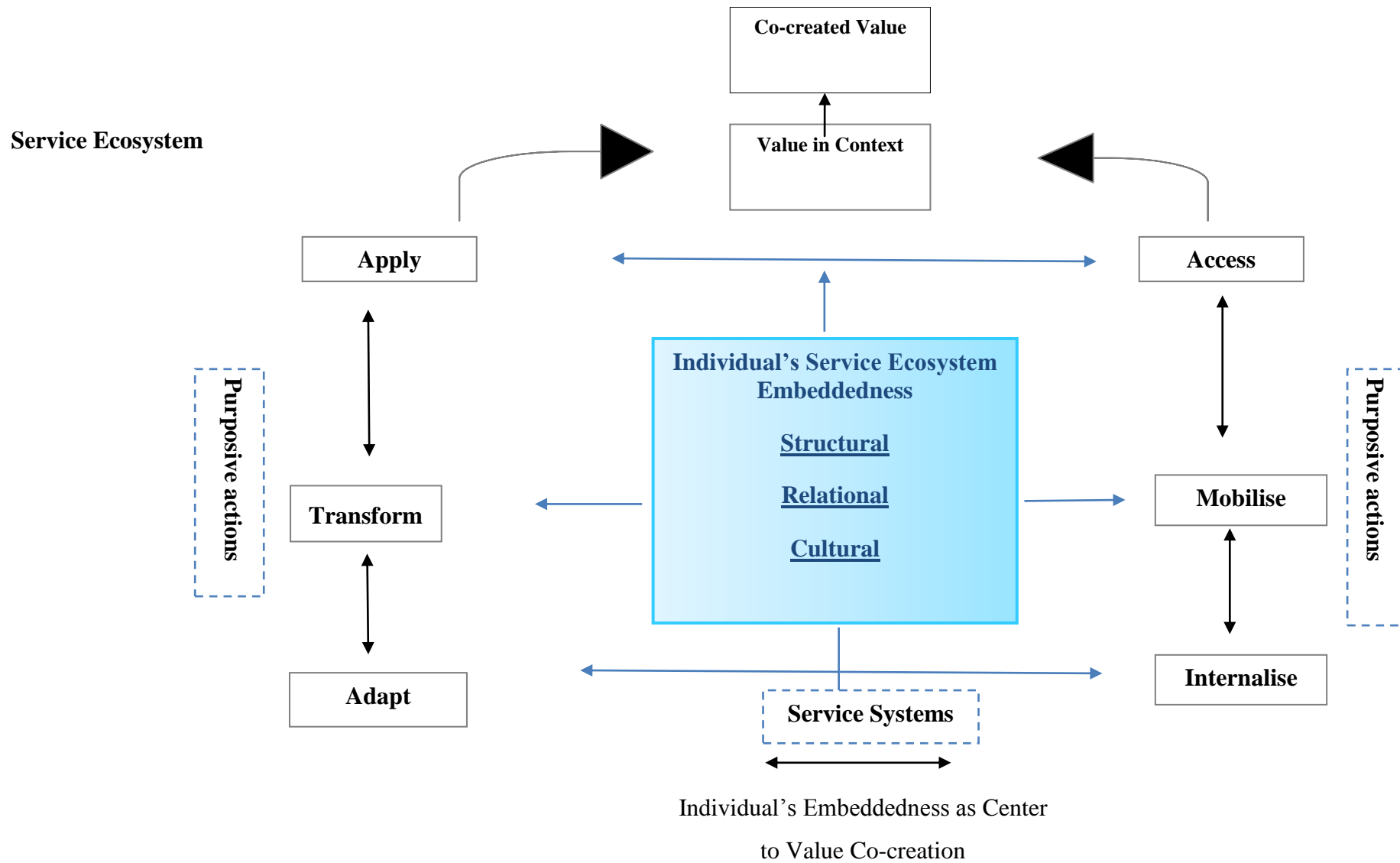
resources from different service systems simultaneously, broadening the potential for resource integration. Individuals move within and between service systems by exercising service practices such as access and mobilisation. The more an individual is embedded in several service systems (in other words, the wider is the service ecosystem embeddedness), the more resources this individual can potentially access and acquire. By being part of several service systems, actors potentially have a greater number of relationships to leverage distributed and dispersed resources (structural embeddedness). However, simultaneous embeddedness in various service systems can also pose challenges to maintaining relational quality (relational embeddedness) and cultural compliance (cultural embeddedness). As a greater number of relationships potentially threatens the closeness of the relationships (the more friends/connections one has, the more difficult being close to everyone becomes), and having a greater number of interconnected service systems requires complying with diverse cultural contexts and conditions (the more various cultures/values the individual service systems have, the more difficult navigating through and complying with these different system demands becomes). Overall, a service ecosystem perspective enriches understanding of the role of embeddedness as it helps to better explain actors' resource integration potentials and limitations across service systems.

Beyond its significance for cross-system resource integration, actors' embeddedness also shapes resource integration at different levels of interactions. S-D logic commonly discusses three context levels: micro (e.g. dyadic), meso (e.g. group/service system) and macro (e.g., market/service ecosystem) (Akaka et al., 2014). During practices of accessing and mobilizing resources, actors are exposed to opportunities to maintain or modify existing and/or gain new resources at every context level. Indeed, cultural, relational, and structural embeddedness can facilitate resource integration across micro, meso, and macro service system levels. For example, structural embeddedness can enhance resource integration across the three levels because the higher the quantity of relationships that stretch these three levels, the higher the likelihood that an actor can access and mobilise specific resources (located at different levels of a service ecosystem) when required. Similarly, for actors who are culturally embedded at both micro/meso (e.g. dyadic/group culture) and macro (e.g. market culture) levels, it will be easier to access and mobilise both lower- and higher-order resources, such as through friendship deeds at the micro-level (with the value-based expectation of reciprocation) or through community consumption rituals/trends, thereby accessing large knowledge or market-based symbolic resources.

Moreover, cultural embeddedness supports better understanding and enactment of the institutional logics associated with different service systems and levels. An institutional logic, interpreted as governing rules, shapes actors' resource integration (Edvardsson et al., 2014); and actors' cultural embeddedness directly shapes their acculturation to and internalisation of institutional logics. Social roles, for example, require appropriate or specific behaviours to meet the associated role expectations. Eliciting relevant behaviour through cultural and institutional assumptions assists with conformity and with conservation of rules, norms, etc. to facilitate resource integration across the three levels of the service ecosystem. Embeddedness can thus enhance the cultural fit within and across institutional logics (the respective value systems), thereby securing or even rendering access to new potential resources.

Furthermore, the more an actor is relationally embedded, the easier and more sustainable resource flows across micro-, meso-, and macro-levels can become. To illustrate, closer relationships at micro-, meso-, and macro-levels can provide greater opportunity to access 'power resources' (e.g. actors with decision-making power) or 'power structures' (e.g. networks of actors with decision-making power); because their incumbents are likely to protect their powerful positions and potentially restrict or limit access to their resources, actors with closer relationships and thus greater relationship trust have greater opportunity to draw on such resources to influence their own and potentially other market actors and their relative opportunities for resource integration across services system levels.

**Figure 1. An Integrated Conceptual Representation of the Social Capital Perspective of the Resource Integration Process**



The core of the framework presented in Figure 1 comprises an individual actor's embeddedness and constitutes the structural, relational, and cultural dimensions that support resource integration practices. The service ecosystem perspective supports a view of interdependent service systems, social structures, and resource integration practices that form the foundation of interactions in the service ecosystem. By linking SCT and S-D logic, the study establishes an actor's service ecosystem embeddedness as central to the resource integration processes through which that person is able to develop value-in-context. Value-in-context is a significant element of value co-creation because it frames exchange, service, and the potentiality of resources from the unique perspective of each individual. Essentially, embeddedness facilitates the realization of value through processes of resource integration that define value experiences as desired by the actors. For example, value can rest in attaining social positions and executing social roles as these may offer opportunities to access, mobilise, transform, and apply the unique resources attached to the social positions in view of individualised value-in-context. Value also resides in using cultural rules, symbols, norms, etc., that can help reserve desirable conditions for future resource integration.

Thus, the integrative embeddedness perspective differs significantly from previously discussed perspectives that view structures and networks as governors and mediators of value co-creation. This approach suggests that an individual's embeddedness is required to facilitate resource integration through continuity of resource flows, resource integration practices and behaviours, social roles and positions, and the overall (re-)formation and continuation of service ecosystems. This linkage leads to the development of a set of propositions and an extensive research agenda.

## **Propositions**

### ***Embeddedness and resource integration practices***

Akaka et al. (2012) refer to resource access, adaptation, and integration as core mechanisms for resource integration. This important portfolio of 'resource practices' deserves further attention. Many authors use the term "resource integration" to refer to a generic perspective that includes all types of resource-related activities or practices (e.g., Vargo and Lusch, 2008). Given this all-encompassing nature of the term 'resource integration', the study proposes to split resource integration into access, mobilisation, internalisation, transformation, and application of resource practices, that are define in Table 1. Beyond the extant literature, particularly resource mobilisation, internalisation, and transformation offer new insights and theorising opportunity in the context of embeddedness.

**Table 1. Key resource integration practices.**

Practice	Working definition
Accessing	Allowing use of the number of resources that is determined by an individual's personal network size in a service system.
Adapting	Self-customizing exchanged resources in a service system to generate value-in-context.
Mobilising	Willingly exchanging resources with others in a service system for value-in-context.
Internalising	Transitioning from explicit to tacit knowledge in a way that assists individuals in conforming and interpreting their socialization tactics.
Transforming	Assimilating resources to create new forms of relevant resources.
Applying	Deploying appropriate resources for value-in-context.

### ***Resource access and mobilisation***

Resource access is a significant resource-integrating practice (Akaka et al., 2012), implicitly indicating a connection between resource access and actors' embeddedness. Advancing from Akaka et al; (2012), our framework proposes an explicit link between the two concepts of resource access and embeddedness. According to SCT, resources are embedded within a structure (Lin, 2001), where they are accessed through social relationships. In the context of S-D logic, actors' embeddedness demonstrates their relationship architecture in the form of quantity (structural embeddedness) and/or quality (relational embeddedness) in a way that allows easy acquisition of relevant resources in a service ecosystem. Further, the acquisition of resources also depends on eliciting co-creation behaviours that permit access to resources. Stimulating such behaviours calls for interpreting cultural forces (cultural embeddedness) that underlie such mechanisms. Hence it is proposed:

**Proposition 1.1.** The ability to access resources in a way that increases the potential to acquire relevant resources across service systems is constrained or facilitated by individuals' embeddedness in a service ecosystem.



Although theorists have outlined the nature and need for discriminating resource access and adaptation (e.g., Akaka et al., 2012), resource mobilisation deserves further exploration. SCT elaborates on resource mobilisation as a product of the availability of resources and the propensity of social ties to move them. In other words, the mobilisation of resources is the preparedness or willingness of individuals to help when called upon, which is indicated by the strength of the relationships and the number of resources available. Mobilisation is a “process of activation” (Lin, 2001: 29). To simplify this definition, this study suggests that greater and guaranteed access to resources (structural embeddedness and/or relational embeddedness) enhances the likelihood of mobilizing resources in order to climb the hierarchical structure. Structural opportunity is an advantage in mobilizing resources, yet individuals who have access to rich resources do not always choose to activate them. SCT clarifies these elements by explaining that individuals’ motivation can lead to the purposive actions they take to mobilise resources.

SCT further posits that individuals have two motives for taking purposive action. The first is to preserve their resources by gaining public recognition. Others’ recognition of an individual’s legitimacy is important in claiming resources, and such recognition occurs through actions such as showing support (relational embeddedness). The second motive is to expand their resources, which occurs only when individuals reciprocate with others via interactions. These interactions occur through routine social actions of individuals in various social positions and social roles (structural embeddedness) within a structure or service system, which leads to mutual recognition among the individuals. Individuals’ potential to mobilise resources is likely to spontaneously activate their sensing of and responding to resources and/or other actors situated within their spatial and temporal structure. The aim of preserving and expanding resources is fundamentally supported through the practice of resource mobilisation. Through this practice, actors can initiate and sustain the movement and redistribution of resources and thereby minimize or maximise resource inequalities among other actors. In so doing, resource mobilisation significantly shapes the emergence and performance of service systems.

Thus, mobilisation comprises rational, adaptive responses that aid in increasing or preserving the pool of resources. Akaka et al; (2012) have focused on the essential practices, namely *access*, *adapt*, and *integrate*. This study argues for adding the practice of *mobilisation* to this portfolio, and demonstrates above the role of embeddedness for resource mobilisation.

**Proposition 1.2.** The ability to mobilise resources in a way that increases the potential to initiate and/or activate resources across service systems is constrained or facilitated by individuals’ embeddedness in a service ecosystem.

**Proposition 1.3.** The ability to mobilise resources in a way that increases the potential to sustain and/or redistribute resources across service systems is constrained or facilitated by individuals' embeddedness in a service ecosystem.

### ***Resource internalisation, transformation, and application***

Resource internalisation is described as the transition from explicit to tacit knowledge (Nonaka and Takeuchi, 1995). Accordingly, an individual's practices merge into routinized actions the more the individual internalises respective knowledge and exchange norms. Internalisation occurs through socialization in institutions (Coleman, 1988). In the context of resource integration processes, internalisation thus informs understanding of an individual's capabilities of eliciting and enacting appropriate value co-creation behaviour during a resource integration episode. Thus, to articulate value-in-cultural-context, it is important for individuals to internalise the cultural frames that guide resource exchanges. Embeddedness facilitates this process by exposing market actors to a multitude of relational, structural, and cultural configurations on which they draw to interpret actions (Coleman, 1987; Weir and Hutchings, 2005). Hence, SCT suggests that individuals' embeddedness plays an important role in internalising the norms that exist in a system. Indeed, exposure through embeddedness helps actors to learn about contextual values and norms, and thereby conform to these conditions.

At the same time, this internalisation strengthens their absorption capacity as actors learn to appreciate the diversity in resources and applying them in value co-creation processes. Absorptive capacity is an individual's ability to recognize the benefit of new knowledge, transform it, and apply it for value generation. In the context of S-D logic, absorptive capacity similarly suggests a resource integrator's ability to recognize the value of knowledge resources (transformation of new knowledge) that are potentially embedded in their social relationships and can be activated for their benefits. The transformation capacity of individuals might accordingly depend on their embeddedness in order to acquire, mobilise, and absorb relevant external resources available through their network. In sum, actors' relational, structural, and cultural embeddedness has important implications for their ability to transform knowledge resources. Recognition of the value of knowledge (resources) for transformation can be closely linked to individuals being motivated to take purposive action to preserve existing resources or expand their resource pool.

The following three propositions are offered to establish the significance of embeddedness in view of internalisation, transformation, and application as additional resource integration practices:

**Proposition 1.4.** The ability to internalise resources in a way that strengthens the potential to interpret and enact appropriate co-creation behaviours and practices across service systems is constrained or facilitated by an individuals' embeddedness in a service ecosystem.

**Proposition 1.5.** The ability to transform new resources in a way that strengthens the potential to expand resources by recognizing the value of new resources across service systems is constrained or facilitated by an individuals' embeddedness in a service ecosystem.

**Proposition 1.6.** The ability to apply existing and new resources in a way that strengthens the potential to actualise valuable experience across service systems is constrained or facilitated by an individuals' embeddedness in a service ecosystem.

### ***Embeddedness and social positions; social roles***

S-D logic argues that “social roles can be both operant and operand resources” (Akaka and Chandler, 2011: 252). All market actors are accordingly capable of developing social roles and social positions as resources in service systems while also being acted upon by other actors with alternative positions. Through the execution and integration of roles as resources, customers and other stakeholders uniquely create value for themselves and for others. According to SCT, the acquisition of different social roles and social positions is predicted by individuals' levels of structural embeddedness within service systems. For example, individuals who are more highly structurally embedded would have more connections and consequently better access to a larger volume of resources (Moody and White, 2003). Individuals who actively access and mobilise resources have a larger network of exchange partners and therefore gain higher hierarchical or network positions in the system. Individuals holding prestige positions interact with individuals in lower positions to assert their power and control over the resources.

From a resource integration perspective, increases in interaction between high-level and low-level individuals will provide access to better resources for low-level individuals and lead to subsequent value co-creation. This access in turn will facilitate a re-distribution of resources to individual actors at all levels within a service ecosystem. Moreover, the strength of individuals' location within service systems can to a degree predict the social role they play in the service system. An actor's identity is constructed through multiple role settings: a social role exists in relation to other complementary roles, and a role indicates the points of contact and interaction

between actors occupying different positions (Powell and Smith-Doerr, 1994). Hence, knowledge of actors' structural embeddedness facilitates prediction of their orientation and behaviour (Rao et al., 2000).

For example, SCT suggests that bridging occurs when the person is located between two otherwise isolated system members, thereby manifesting the nexus of resource exchange. The social role of being a "bridge" in a system can shape an individual's ability to swiftly relay and spread information and sustain the resource flow in a service system. Individuals with strong positions in a service system are connected to bridging individuals and can thereby facilitate resources from both outside and inside the group. As these individuals are at a prime junction, they are valuable exchange partners who can constrain or enable the resource integration process.

It is argued, therefore, that actors in better social positions or roles are likely to have an advantage in accessing and mobilizing social ties with valuable resources. SCT further states there are two types of social position that an individual acquires in a structure: one that is inherited and called *ascribed position*, the other that is emergent and labelled *attained position* (Lin, 2001). Actors can improve their propensity for resource integration by leveraging both ascribed and attained positions in the form of better resource access and use.

In sum, structural embeddedness forms the basis of social positions and social roles that are the operand and operant resources of service ecosystems, thereby offering potential competitive advantage to a resource integrator within and/or across a service ecosystem.

**Proposition 2.1.** The ability to gain social positions and social roles in a way that strengthens the potential to access and mobilise resources across a service ecosystem is constrained or facilitated by individuals' structural embeddedness.

### ***Embeddedness and continuity in exchange processes; resource flow***

Continuity in exchange processes through reciprocity, redistribution, and market exchanges as described in S-D logic is considered the essence of resource integration mechanisms at all levels of a service ecosystem. Continuous resource flows lead to more sustainable service ecosystems. However, only guaranteed access to and mobilisation of resources and resource flows underlie continuity. In turn, guarantees, reciprocity, and mutuality of exchanges often have their origins in an actor's relational embeddedness. The quality of relationships that individual actors share with their exchange partners predicts the potential of their ongoing access to resources. Higher relational embeddedness facilitates reciprocal transactions among exchange partners and therefore supports

resource access and mobilisation. Higher relational embeddedness also leads to a bounded solidarity that focuses on the situational circumstances and gives rise to group-oriented behaviour to achieve a mutual goal (Portes and Sensenbrenner, 1993).

The relational embeddedness of individuals is reflected by the type of social ties (strong or weak) that they share with their exchange partners. As SCT suggests, both weak and strong ties can have unique outcomes for the resource exchange process. For example, a strong tie determines the closeness, intimacy, and support in a relationship (Brown et al., 2007). Strong ties are characterized by (1) a sense that the relationship is intimate and special, with a voluntary investment in the relationship and a desire for companionship with the partner; (2) an interest in frequent interactions in multiple contexts; and (3) a sense of the mutuality of the relationship (Day et al., 2013; Granovetter, 2005; Mardsen and Campbell, 1984; Moran, 2005). Thus, a strong tie between individuals can have a positive influence on the partners, since they are readily available and more motivated to access and mobilise resources (Leonard-Barton, 1985).

SCT notes that individuals in close-knit groups often have a moral commitment to the group's well-being, which leads to ready mobilisation of resources. Such individuals have a vested interest in conforming to the group's thought processes, to guarantee ongoing access to the group's resources. In addition, strong ties result in social credentials, reputation, social approval, support, and public recognition (Lin, 2001). This effect can signify and legitimise individuals' actions and interactions in a service ecosystem. Strong ties are important in a service ecosystem for the existence or preservation of norms and trustworthiness that permit proliferation of obligations and expectations (Coleman, 1998).

On the other hand, weak ties serve an important channelling function that allows resources to travel between individuals or groups (Granovetter, 1973; Reingen, 1987, 1984). Although weak ties may not be as readily influenced as strong ties for resource access and mobilisation, they may nonetheless access and mobilise other resources beyond the reach of a close-knit group of individuals (Granovetter, 1973, 1995). They may act as passages in a service ecosystem and have the potential to unlock and expose close groups to external influences (Goldenberg et al., 2001), such as bringing innovative or new knowledge to the group. Owing to their channelling functions, weak ties may pave the way for the spread of resources throughout the system and can provide access to an external resource and act as conjugative partners in a service ecosystem.

Although strong ties can also serve as linkers (Burt, 1992), their tendency to be redundant sources of information is a widely accepted tenet of network theory (Ruef, 2002). Strong ties can lead to closures owing to exchanging similar resources with same set of network partners, thus

precluding exposure to information from outside and limiting the potential for resource transformation (Lin, 2001). Consistent with the strength of ties thesis, speedy transmission and availability of external resources will be greater across a service system relying on weak ties rather than on strong ties. In summary, relational embeddedness can predict the potential of an individual to acquire a guaranteed resource flow at multiple exchange levels within a service ecosystem.

**Proposition 2.2.** The ability to gain continuity in resource flows in a way that strengthens the potential to access and mobilise resources across a service ecosystem is constrained or facilitated by individuals' relational embeddedness.

### ***Embeddedness and cultural context; co-creation behaviour***

The cultural context in which exchange processes occur is perhaps the most defining influence on an actor's interaction in a service ecosystem. Culture provides the overall framework wherein individual actors learn to organize their thoughts, emotions, and behaviours in relation to their environment. Awareness of cultural context is not innate in nature. Rather, it is learned and internalised. Drawing from cultural forces, individual actors learn how to think, which in turn conditions them how to feel and instructs them how to act, especially how to interact with other exchange partners. Culture –shared values, norms, and meaning – offers guidelines for individuals to conduct exchanges.

Embeddedness is significant with respect to economic action in the larger cultural and institutional environment (Granovetter, 1985; Krippner et al., 2004), and shared values are considered to be imperative in building buyer–seller relationships. Social capital theorists have viewed structures such as service ecosystems as those in which individuals share values and trust procedures that can be used to access and mobilise resources (Hauberer, 2011; Lin, 2001; Putnam, 2000). A strategic consensus – the shared understanding of priorities, social norms, rules, and procedures in a structure – is a central component of the cognitive dimension of social capital because it represents a system of shared visions between exchange partners. This cognitive dimension corresponds to cultural embeddedness because shared understandings can limit misinterpretation in communication between network members, thereby facilitating the efficiency of mobilizing, adapting, and applying resources (Land et al., 2012).

Cultural embeddedness facilitates an understanding of how individuals are motivated to elicit appropriate value co-creation behaviour to legitimise and add meaning to their exchange processes and practices. By using the cultural cues of a service ecosystem, individual actors can access, mobilise, internalise, and transform their actions and seek out and expand resources more

quickly. Thus, cultural embeddedness is important in building individuals' resource integration potential by shaping their understanding of institutional logic and using it for operating in a service ecosystem.

**Proposition 2.3.** The ability to shape and interpret appropriate co-creation behaviour in a way that strengthens the potential to access and mobilise resources across a service ecosystem is constrained or facilitated by individuals' cultural embeddedness.

### *Embeddedness and the (re)formation and continuation of a service ecosystem*

Finally, the study reflects on the role played by actors' embeddedness in the process of the (re)formation and continuation of a service ecosystem using SCT. While S-D logic acknowledges that service ecosystems consist of an interconnected ecology of various service systems nested within or at least related to each other, the sociology literature suggests that structures do not spontaneously spring into action. Rather, they emerge as a result of multiple interactions among many individuals over time at multiple levels (Coleman, 1988). For the purpose of resource integration, these interactions occur not only across individual service systems but also across micro, meso, and macro system levels, as indicated earlier. SCT thus defines interactions as the reciprocation of actions (Lin, 2001). Degrees of reciprocation can be determined by the structural, relational, and cultural aspects of an actor's embeddedness. For example, at the micro-level, structural, relational, and cultural embeddedness influences actor-to-actor service exchanges by accessing resources in order to mobilise and redistribute them and to serve other actors with whom they are interacting. Ongoing reciprocation leads to routine actions and creates social practices within the structure. Individuals favour routine social practices because they do not need to invest resources in developing a conduct for every exchange or economic transaction they perform. SCT refers to this approach as following the principle of the minimization of resources (Lin, 2001).

Embeddedness supports the emergence and routinisation of resource integration practices across the micro, meso, and macro system levels. For example, routinized practices at the micro-level help give meaning to the interactions between exchange partners. That is, actors in dyadic constellations draw on routinized resource practices enabled by embeddedness to interpret interactions and their intricacies, such as required one-on-one negotiations and reciprocations. Research suggests that an interaction can be casual or complex in nature (e.g. Inglis, 2007). Identification of the nature of interaction prior to participating in an exchange, which abets with evoking the skills best suited for the purpose and goal of interaction, is important because when skills match the requirements of the tasks, outcomes are more likely to match the expectations.

Embeddedness helps to recognize these attributes of an interaction. For instance, structural embeddedness frames the level of complexities and the mechanics of interacting with exchange partners through designating social positions, roles, and status in service systems, thus offering an interaction guideline during resource integration. On other hand, relational embeddedness enhances inter-subjective or social bonds by facilitating closeness with the exchange partner. Resulting empathy and intimacy in relationships promote trust, thereby assisting with navigation through the intricacies of resource exchange through human interaction. Similarly, cultural embeddedness regulates the shared norm of reciprocity between the exchange partners, and hence guides routinized behaviours and practices for sustainable participation for ongoing resource integration (Johnson, 2008).

At meso-level, embeddedness underpins the emergence and routinisation of resource practices, with both direct and indirect interactions occurring among multiple actors (a group of actors). When multiple actors engage in a similar ensemble of practices in ways such that they become routinely anchored and socially patterned, it supports the normalization and institutionalization of those resource practices at meso-level, and potentially replicate further at macro-level. In particular, embeddedness contributes to synthesizing a collective line of action by bringing together multiple actors to achieve collective goals. Structural embeddedness clarifies the emergence of social positions and social roles, determining the distribution of power structures. In turn, the clarity of actors' roles facilitates task allocation and manoeuvring resource integration to achieve group goals in service systems. Consequently, embeddedness helps evade potential role conflict within the service system that can challenge resource access, mobilisation, and other integrating practices. On the other hand, relational embeddedness institutes collective empathy or a sense of belonging among the actors at meso-level. This sense of "we-ness" is likely to increase actors' willingness to engage in multiple exchange transactions and to strive toward collective goals. The joint contributions of actors are compensated by sharing the tangible or intangible rewards of their actions. For instance, customers' active involvement in new product development processes facilitates potentially intense information-sharing with the supplier, which prompts the supplier to take risks in terms of resource investment to design effective customized products (tangible rewards).

Similarly, SCT suggests that actors participating in collective actions are rewarded with membership of the group, which may act like a certificate of credit (intangible rewards) for such actors and may support their negotiations for resource exchange outside the group. Cultural embeddedness at meso-level helps in contriving collective goals and defining reality for actors who become involved in them. Specifically, cultural embeddedness weaves the shared norms, values,



rules, etc. widely across direct and indirect interactions, thereby streamlining exchange patterns for the achievement of communal objectives. Shared values and norms are particularly important for meso-level indirect interactions, partly because of the need for trust in highly interdependent impersonal transactions and partly because of the wide disparity in the resources of various exchange partners (Johnson, 2008). Furthermore, cultural rituals and institutional logics can help stabilize service systems through implicit and/or explicit understanding of how resource integration practices are to be carried out (e.g. through normative expectations) at various levels, thereby establishing routine resource integration practices (Edvardsson et al., 2014). Social practices, for instance, can thus become guiding procedures for operating within social structures, constraining or enabling individuals' value realization by laying down boundaries through, for example, behavioural standards.

Lastly, we view the macro-level context of resource integration as interrelated subsystems interacting with each other for the achievement of higher-order shared goals. For example, different departments (subsystems) of a firm or different customer groups of a brand (segments) might integrate resources for the accomplishment of a shared strategic benefit of the firm and market (service ecosystem). Different groups of Lego customers, participating through various platforms and avenues such as LEGO Factory, LEGO Mosaic, LEGO Vikings, and Ldraw, integrate resources not only to achieve their own group goals but also to enhance the overall Lego brand experience and to promote the emergence and continuation of a rich Lego community and culture. The important aspects of large-scale structures are the significant proportion of indirect exchanges between interrelated subsystems. Structural embeddedness elaborates the social role of each subsystem and defines the behavioural expectation of the subsystem and macro system overall. The role of a subsystem represents accordingly a significant aspect for the functioning of a service ecosystem, as it may have direct implications on resource integration and value outcomes at macro-level.

Relational embeddedness facilitates closeness and a feeling of responsibility between the subsystems of a service ecosystem, thereby assisting with aligning individual efforts to achieve higher-order goals. Cultural embeddedness helps ensure the emergence of macro-level interactions by institutionalizing shared values and routinized practices on a broader (e.g. market-wide) basis, and offers crucial guidelines to the subsystems in view of norms, actions, and interpretations of resource integration for high-order value actualization. Thus, resource practices at all layers of the service ecosystem can create continuance while self-adjusting through the development of new resource-integrating practices and standards, which in turn influence individuals' actions in accessing and mobilizing resources that are dependent on the level of embeddedness. A service

ecosystem accordingly emerges from the ongoing exchanges of resources via reciprocation, mutuality, and redistribution. These interactions at all layers of the service ecosystem create transitivity and adjustments to the sub-systems themselves. Social structures across micro-, meso-, and macro-levels thus continuously change as new actors join or current actors exit the service systems, triggering a change of relational constellations and social roles, while social practices evolve and dissolve. The evolving dynamics in turn can stimulate a reformation of existing service systems or potentially even the formation of new service systems and embeddedness constellations. In summary, micro-, meso-, and macro-level dynamics emerge from the ongoing exchanges of resources between structurally, relationally, and culturally embedded market actors, via boundary-spanning resource integration practices that influence the emergence, (re)formation, and continuation of a service ecosystem. Hence,

**Proposition 2.4.** The emergence, (re)formation, and continuation of a service ecosystem is constrained or facilitated by individuals' embeddedness at micro-, meso-, and macro-levels of interaction.

## DISCUSSION

### Theoretical Implications

S-D logic suggests that customers interact and combine resources to create valuable outcomes that are mutually beneficial (Vargo and Lusch, 2008). Customers participating in service exchanges interact through institutions of reciprocation and seek to maintain relationships with their exchange partners. The social capital of individual actors and their relational constellations thus represents a key to leveraging resource integration within a service ecosystem. The resource integration potential of individual actors depends heavily on their level of embeddedness that governs their ability to gain dividends. This study began the investigation by setting out two research questions: *RQ1: What roles do social interdependence and, in particular, an individual actor's degree of embeddedness, play with respect to resource integration in service ecosystems?* And *RQ2: How can SCT expand the understanding of resource integration from a theoretical point of view and thereby enrich the S-D logic perspective?*

Drawing on SCT, the study establishes that individuals' level of embeddedness is instrumental in their accessing, mobilizing, internalising, transforming, and applying resources. This paper thus contributes to the S-D logic school of thought by providing a more informed and holistic perspective than prior network and structuration perspectives that have been linked to resource integration and value co-creation in a service ecosystem.

The present research offers a comprehensive and coherent discussion of embeddedness in marketing by accounting for different types of embeddedness that significantly shape and explain resource integration from the perspective of S-D logic, thus advancing prior work (Akaka et al., 2012; Chandler and Wieland, 2010). Using SCT to propose a multifaceted concept of embeddedness significantly advances understanding of resource integration processes, practices, and ultimate value co-creation, and brings the discussion of embeddedness to the forefront of the S-D logic dialog. Importantly, the three types of embeddedness demonstrate how structural, relational, and cultural factors directly influence resource-related practices (accessing, mobilizing, internalising, transforming, etc.) that are central value creation elements. In turn, this provides a richer theoretical foundation to S-D logic with its focus on co-creating value through interconnected resource integration. While the study acknowledges their contributions (and limitations) in earlier parts of the paper, neither practice, neither network, nor structuration approaches as commonly applied in the S-D school of thought provide this theoretical foundation. This research thus reduces the theoretical vagueness and implicitness associated with the current perspective of embeddedness. Informed by SCT, the concept of embeddedness (and its three dimensions) further assist in understanding the emergence of constellational attributes such as reputation, solidarity, power, and authority. These attributes in turn shape routine actions and thereby determine actors' resource integration practices within and across service systems. As a basis for embeddedness, SCT not only explains constellational entities but also accounts for their influence on value outcomes. Such an explicit connection has been limited in previous work in the context of S-D logic.

S-D logic research that employs Giddens' (1984) structuration framework often considers the development of value-in-social-context by focusing on dominant or powerful individuals who are responsible for guiding value creation processes (e.g., Edvardsson et al., 2012). However, this understanding is not entirely complementary to the S-D logic premise that "all social and economic actors co-produce mutually beneficial value" (Vargo and Lusch, 2008: 154), as it marginalizes less dominant and less powerful individuals. In contrast, SCT, as an integrative perspective, embraces non-dominant actors and acknowledges these actors as potential co-producers of desired outcomes with different levels of embeddedness. Hence, the proposed SCT perspective facilitates a more synergistic understanding of value-in-social-context that is inherently consistent with S-D logic. Moreover, the advance understanding of social roles as resources embedded in value networks (Akaka and Chandler, 2011). In giving explicit attention to how actors derive and enhance social identity via social roles, embeddedness arguments explain how structural embeddedness provides actors with the categories and understanding to exercise multiple social roles by accessing and mobilizing specific resources.

Prior literature on cultural context offers invaluable understanding of what a value-in-cultural-context entails for service systems (e.g., Akaka et al., 2013). Put simply, researchers argue from this perspective that value assessments and practices are influenced by cultural forces. This study advances the understanding of both value-in-social-context and value-in-cultural-context by explicitly accounting for relational and cultural embeddedness as important conditions for resource access and mobilisation. In other words, this paper contributes by providing a more advanced and coherent picture of resource integration and value co-creation as different levels of structural, relational, and cultural embeddedness act as mechanisms to achieve value-in-social-context and value-in-cultural-context.

The focus on embeddedness and SCT also responds to the call for more middle-range theories that assist with the transition of S-D logic research from a high level of abstraction to more specific theorization that facilitates empirical research (Brodie et al., 2011). The connection between S-D logic and SCT particularly addresses the intricacies of relational constellations and the implications for value co-creation. Further, it enables researchers to study value creation processes and value outcomes simultaneously as inter-linked mechanisms, as encouraged by Gummerus (2013). For example, different levels of embeddedness offer various levels of opportunity for the realization of desired value outcomes through the mobilisation of relational, structural, and cultural resources.

The proposed framework advances resource integration practices by explicitly conceptualizing and theorising about resource mobilisation, resource internalisation and resource transformation as significant additional exchange practices, and their links to embeddedness. These practices advance the development of the practice portfolio of resource access, adaptation, and integration (Akaka et al., 2012), providing more fine-grained understanding of resource integration while leveraging the idea of actors' level of embeddedness. By focusing on individuals' motivation for resource exchange and their ability to assimilate and conform with social norms, the study breaks down the generic term "resource integration" and offer a more granular view through cataloguing different practices and linking them back to actors' level of embeddedness, a view that has not been previously discussed within S-D logic. Thus, providing a platform that encourages future research related to developing practice portfolios for empirical investigations of resource integration.

Overall, this paper strengthens understanding the dissemination of resources across the service ecosystem by contextualizing the idea of the structural, relational, and cultural embedding of individuals as an underlying basis of resource integration. The different dimensions of an individuals' embeddedness and their unique influence on individuals' resource integration aspects

(practices, norms, roles, positions, continuity, levels), leading ultimately to value co-creation, illustrate the richness of the construct of embeddedness.

## **Managerial Implications**

Through a practical perspective, through this study aims to provide practitioners with a better understanding of how to interpret resource integration processes and facilitate co-creation experiences. The proposed perspective can be used to map and report patterns of customers' relationships and to develop unique value experiences that will motivate customers to maximise value generation. For instance, knowledge about consumers' relationship structures in a brand community will help understand what social roles individuals play in their own groups – for example, as a key brand advocate – and their potential impact on other customers among direct and indirect contacts. Depending on the level of embeddedness, an individual could be a communication controller and brand influencer, particularly if the person shares strong bonds with specific customers in the community. Such knowledge would help in deploying appropriate activities that maintain consumers' participation in service provisions and offer better value propositions to others in the process. Understanding individuals' embeddedness might even lead to developing new reward systems within communities to provide incentives to central individuals to promote a brand.

The notion of embeddedness might also be used as a tool for managers to recruit agents of change on behalf of the firm. Since communication is vital to successful collaboration, the firm could recruit these individuals as value co-creators. They could be operationalized to minimize cost, time, misunderstandings, and uncertainty in service-to-service exchanges in the service systems. These agents could advocate a firm's activities to others and increase trustworthiness between firms and customer communities. A strategically aggressive firm will seek and collect possible resources that can be used to achieve objectives and competitive advantage.

An individual's embeddedness and its significance with respect to access, mobilisation, internalisation, transformation, and application of resources can affect responsiveness to change in the service environment as well as the timeliness and innovativeness of decision-making for individualised and collective value co-creation. Ecosystem system embeddedness can be linked to determining a customer's value outcomes, and thus may help to improve a firm's interaction and overall service experience. Multiple system memberships can also lead to individuals acting as facilitators for resource flows from one system to another, which may result in benefits or challenges to the related service system.

## Future Research, Limitations and Conclusion

Despite earlier research into embeddedness, a significant need exists to better understand how social relationships and exchanges may operate as resources for value co-creation in service environments. This study suggests that to understand the evolution of service ecosystems, future research could further explore individuals' embeddedness. For example, whereas this paper focuses on resource access, mobilisation, internalisation, transformation, and application based on a direct relationship with an actor's level of embeddedness, researchers could investigate potential indirect relationships between embeddedness and identify alternative integration practices.

The value co-creation efforts of individual actors are a function of their simultaneous embeddedness within multiple dyads, triads, complex networks, and, in particular, the service ecosystem (Chandler and Vargo, 2011). Consideration of the effects of structural embeddedness, relational embeddedness, and cultural embeddedness should over time provide insights into how resource flows can be generated and sustained in service ecosystems. These resource flows depend not only on the embeddedness of individuals but also on the embeddedness of collectives such as groups or networks interacting with other groups or networks. Researchers could broaden theorising attempts related to embeddedness in marketing by discussing cognitive, political, or technological embeddedness characteristics that might influence resource integration in specific service settings (Hogstrom and Tronvoll 2012; Zukin and DiMaggio, 1990). Further, researchers could apply the proposed embeddedness perspective to empirically test how different dimensions of embeddedness shape various value co-creation behaviours and outcomes in diverse service settings. That is, prior research in marketing has not provided insights into the differential impacts of cultural, relational, and structural embeddedness on customer- and firm-related outcomes. For example, it is currently unclear which type of embeddedness is the strongest driver of brand intimacy (firm perspective) or value-in-context (customer perspective). Investigating how embeddedness can offer more refined and formalised conceptualisations and operationalizations of the social roles that an individual assumes in a service ecosystem would be important, as poorly understood roles may actually prove counterproductive to resource integration processes.

Whereas in this article the focus is on the embeddedness of individual actors and several relational factors, future research might discuss actors' personal traits such as self-efficacy, in connection with embeddedness and its impact on their resource integration efforts. Self-efficacy is a cognitive factor that is documented to have a high level of motivational effect on human action (e.g., Bandura, 1986; George 1992; Weiss and Alder, 1984). Individuals' judgment of their self-efficacy affects their thought patterns and behavioural reactions during anticipatory and actual transactions with other entities in their environment (Bandura, 1986). Researchers could thus

empirically investigate the interplay between embeddedness and self-efficacy in view of effective resource integration efforts.

Overall, this paper uniquely links S-D logic research, SCT research, and the role of embeddedness to advance understanding of resource integration in service ecosystems. However, this linkage may seem to limit the usefulness of the construct to the broader marketing literature. Given the versatility of embeddedness as an invaluable concept for wider application in consumer behaviour, service, and strategy research, future studies could explore and advance its relevance for understanding of its characteristics and benefits in various contexts. Another limitation is that embeddedness is an exchange logic that promotes economies of time, integrative agreements, allocative efficiency, and complex adaptation, but it has the potential to reach a threshold that may lead to the derailing of its benefits (Uzzi, 1996). Therefore, to sustain the quality and structure of dynamic service systems for continuous resource flows, understanding of the nature of potential limitations associated with embeddedness over time is important.

To conclude, resource integration and value co-creation depends on individuals' embeddedness across service systems – specifically, the relational, structural, and cultural embeddedness that influence actors' access, mobilisation, internalisation, transformation, and application of resources. This perspective helps to identify more meaningful theoretical and practical implications of the construct for resource integration. Social capital theory offers a complementary perspective that extends the understanding of why and how alternative resource integration practices have significance for customers in co-creating value, depending on their level of embeddedness

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## STUDY 2

### Value Co-creation Behaviour in Service Systems:

#### The Role of Embeddedness and Outcome Considerations

##### Abstract

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Consumers' value co-creation behaviour, as a means to facilitating value realisation processes, is gaining importance in service research and practice. Encouraging such enactments can be challenging, but can also offer competitive advantages. Despite the interest in fostering consumers' co-creation behaviours, research is lacking that investigates the antecedents and consequences of value co-creation behaviour. Against this background, the present study investigates a comprehensive *nomological* network to establish the interdependencies of value co-creation behaviour for resource integration processes. In doing so, this study converges three contemporary concepts of co-creation research— embeddedness, value co-creation behaviour and value-in-context—and examines their interconnections. Data was collected in an online forum of a leading international weight-management firm. The study contributes by empirically establishing consumers' embeddedness and its three dimensions as key antecedents of value co-creation behaviour. The study also advances the understanding of how consumers' object-oriented, self-oriented and brand-oriented value-in-context outcomes are actualised through participation in value co-creation behaviour. Overall, the study advances S-D logic literature by offering insights into important pre-conditions and subsequent outcomes to manage the nurturing of consumers' value co-creation behaviours in a service system.

*Keywords: Value co-creation behaviour, embeddedness, resource integration, value-in-context*

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## INTRODUCTION

The significance of firms collaborating with market actors such as consumers is gaining credence in organisational marketing practices. Recently, Coca-Cola received increasing recognition in the market for its innovative co-creation strategies (Dan, 2013). For instance, in 2011, Coca-Cola collaborated with consumers to generate creative ideas in an effort to develop high-impact marketing campaigns and promote the Coca-Cola brand (coca-cola.com, 2012). Coca-Cola collected novel interpretations of their brand promise from consumer communities using online platforms. Consumers actively participated by submitting ingenious illustrations, many of which were used as advertisements. By involving the consumer community, Coca-Cola fuelled the connectedness between consumers for inspiring behaviours of self-expression, deeper interaction, brand ownership and brand advocacy. Coca-Cola thus illustrated the relevance of active participation and connectivity among consumers for the development of resonating value propositions that support competitive advantages in the market.

Central to such consumer participation are co-creation behaviours that facilitate beneficial relationships among market actors. The heightened interest among managers to encourage co-creation behaviours with consumers has attracted scholarly attention and led to preliminary research in the area. Recently, Yi and Gong (2013) established the significance of *value creation behaviours* (VCBs) —a multi-dimensional construct manifesting various consumer value creation activities. In this paper, and in line with Yi and Gong (2013) and Chan et al. (2010), VCB refers to participation in and contribution to value co-creation processes. The latter represents interactions with and usage of resources for the mutual benefit; this is also referred to as resource integration (Vargo and Lusch, 2008). The concept of VCB is therefore crucial for a better understanding of how consumers interact and co-ordinate exchanges with each other and achieve desired values. The increasing significance of VCB for co-creation processes requires investigation into the preconditions that facilitate such behaviours among consumers. Knowledge about preconditions will assist in building a theoretically rich understanding of VCB for enabling effective co-creation processes.

According to S-D logic, value co-creation processes are relational in nature (Vargo and Lusch, 2008), which implies that connections among consumers are essential to their resource integration efforts. Recent advancements in S-D logic (e.g. Laud et al., 2015), highlight the significance of social structures by introducing the concept of embeddedness as a critical factor for facilitating resource integration processes. Embeddedness represents the contextualization of ongoing patterns of social relationships that shape behaviours, processes and outcomes in marketplaces (Hess, 2004; Jessop, 2001). The connection between embeddedness and co-creation

processes enables an understanding of how consumers' relational constellations can facilitate possibilities to interact for service provision. Indeed, consumers' embeddedness has the potential to present opportunities and/or resources that are supportive or constrictive for cultivating co-creation behaviours (Laud et al., 2015). While embeddedness has been proposed to be an important condition for value co-creation, there is no empirical validation for this assumption. Hence, scholars such as Laud et al. (2015) call for empirical research to better understand the role of embeddedness for shaping various value co-creation behaviours in service settings.

In addition to the relevant preconditions, an understanding of the effectiveness of consumers' VCB for desired outcomes during resource integration is equally important. Yi and Gong (2013) express the need for researchers to identify various consequences of value co-creation behaviour. Further, Gummerus (2013) and Ranjan and Read (2014) highlights the importance of identifying the outcomes of value co-creation processes so as to comprehend how consumers perceive positive- and negative-value experiences. Since the service beneficiary uniquely and *phenomenologically* determines the benefits of co-creation, Vargo and Lusch (2008) propose value-in-context as a suitable concept to directly capture value outcomes.

The fundamental premise is that all resource-integrating activities are performed in a specific context, and therefore the value co-creation outcomes are context-dependent (Löbler and Hahn, 2013). Contexts are situational factors that include other consumers and/or objects that are drawn upon to accrue the desired values. Chandler and Vargo (2011) summarize the significance of contexts by stating that "context is an important dimension of value co-creation because it frames exchange, service, and the potentiality of resources from the unique perspective of each consumer". Therefore, exchange that is conditioned by a specific context is a critical aspect of value co-creation and markets that requires further exploration (Chandler and Vargo, 2011). Along the same vein of thought, Vargo et al. (2008) and Laud et al. (2015) call for more research on defining the processes that enable the measurement of co-creation value-in-context. As a consequence of VCB, value-in-context befittingly captures how consumers exchange resources to co-create meaningful outcomes.

Against this background, the purpose of the present paper is to shed empirical light on value co-creation behaviours by considering their antecedents and consequences. Specifically, the research investigates the role of embeddedness and three inherent manifestations (structural, relational and cultural) as antecedents, and delineates three value-in-context outcomes as consequences of VCB (object-oriented, self-oriented and brand-oriented). Although previous research has considered drivers of VCB ( e.g. Yi and Gong, 2013; Yi, 2014), this body of work is conceptual in nature. Similarly, empirical work regarding VCB outcomes is surprisingly limited

(Revilla-Camacho et al., 2015; Vega-Vazquez et al., 2013). The present paper systematically draws on S-D logic and socio-behavioural theories to address the identified research gap by investigating two research questions:

**RQ1:** *What role does consumers' embeddedness play in determining value co-creation behaviour in a service system?*

**RQ2:** *How does consumers' value co-creation behaviour subsequently influence their value-in-context outcomes in a service system?*

In doing so, the study integrates, for the first time, three central concepts of service research — embeddedness (Laud et al., 2015), VCB (Yi and Gong, 2013); and value-in-context (Vargo, 2009; Chandler and Vargo, 2011) — into a *nomological* co-creation network.

The study contributes to service research by advancing the understanding of the antecedents and consequences of value co-creation behaviour. To the knowledge of the researchers, this study is the first empirical work that offers in-depth insights into the preconditions and outcomes of VCB proposed by Yi and Gong (2013). In doing so, the study further builds on the notion of embeddedness and its dimensions (structural, relational and cultural), as suggested by Laud et al. (2015), by theorising the concept as an important antecedent of VCB. Thus, Study 2 addresses the research call by Laud et al. (2015) by reinforcing that in a service system consumers' relational constellations frame their potential for resource integration. Overall, through empirical evidence, the research progresses the service literature by fortifying the invaluable role of embeddedness for value co-creation processes in service systems.

The study's examination of three types of embeddedness (structural, relational and cultural) enables us to offer a rich understanding of their implications for VCB. For instance, the research demonstrates embeddedness is a means of fostering characteristics, such as cohesion and intimacy among relational constellations that may offer strategic advantages during co-creation processes. Importantly, this paper advances an understanding of cultural embeddedness as an important driver shaping consumers' VCB in a given value context. Extant literature within S-D logic suggests that cultural contexts (e.g. Akaka et al., 2013) are important for realizing service-exchange efforts. However, to date, no empirical research consolidates the influence of cultural embeddedness as the consumer's capacity to interpret shared norms of value co-creation.

Finally, this article adds to the research stream of value co-creation outcomes by identifying three distinct customer benefits. As a result of addressing the research calls made by Yi and Gong (2013), Laud et al. (2015) and Chandler and Vargo (2011), this study examines value-in-context outcomes to capture how consumers actualise value during co-creation. Essentially, Study 2 advances value outcome research by identifying brand as an active exchange partner in the process of co-creation, and offers an understanding of how consumers interact with a brand to seek and/or offer service provision during co-creation. Accordingly, Study 2 reinforces the concept of value-in-context to reconcile the significance of VCB with co-creation processes and to offer an elaborate managerial agenda.

## **LITERATURE REVIEW**

### ***Importance of Value Co-creation Behaviour for Resource Integration Processes***

Value co-creation behaviour (VCB) is a means by which consumers interact with others so as to adjust to a specific environment and orchestrate resources in a service system. A service system is an arrangement of resources (including people, technology, information, etc.) connected to other systems by value propositions (Spohrer et al., 2007). A service system's function is to make use of its own resources and the resources of others to improve its circumstances and that of others. VCB has the potential to advance the understanding of value co-creation processes and outcomes by providing the knowledge of how to develop fertile conditions for ongoing interactions among consumers of a service system. Recently, Yi and Gong (2013) proposed a comprehensive concept of value co-creation behaviour. VCB is conceived by these authors as a multidimensional construct that encompasses a variety of consumer behaviours, which comprises two higher-order dimensions— *participation behaviour (PB)* and *citizenship behaviour (CB)*—and eight sub-dimensions.

Each sub-dimension represents a different facet of consumers' resource integration efforts. The sub-dimensions also enable an understanding of how consumers endorse different behavioural manifestations during resource integration. Particularly, the sub-dimensions provide insights into how consumers share knowledge and skills among each other to derive mutually beneficial values. The following section illustrates the dimensions of VCB and discusses its significance for value co-creation.

## ***Participation Behaviour (PB) and the value co-creation process***

Building on consumer participation behaviour research (e.g. Bove et al., 2009), Yi and Gong (2013) theorise PB as an in-role behaviour; that is, the core task behaviour for the contribution of labour in service exchanges. Further, PB is conceptualised as an array of four distinct sub-dimensions: information seeking, information sharing, responsible behaviour and personal interaction. In the following, the significance of each sub-dimension and its implications for resource integration is briefly explained:

- 1) *Information Seeking.* During resource integration, consumers may evoke information seeking as a conscious effort to acquire resources (e.g. information), so as to achieve or improve usage of existing resources to gain desired outcomes. Information-seeking behaviour may assist in learning about new resources; such behaviour is vital for developing innovative and better existing resources and/or value experiences. Additionally, consumers' information seeking may reduce the general anxieties, risk and uncertainties associated with the acquisition of a service (Peterson and Merino, 2003). Studies focusing on continuous information seeking have also examined information-searching behaviour as hedonic recreation or entertainment (e.g. Hoolbrook and Hirschman, 1982).
- 2) *Information Sharing.* Information sharing is vital for successful value co-creation. Consumers' information-sharing behaviour has been attributed to their outcome expectations. Information sharing is also associated with extrinsic benefits such as rewards (money and kind), or intrinsic benefits such as self-satisfaction, social recognition or power that consumers might gain (Kankanhalli et al., 2005). For example, information sharing will occur when it can improve one's own resource integration and that of others (Emerson, 1972).
- 3) *Responsible Behaviour.* A consumer participating in value co-creation is expected to bear responsibilities in a co-creating relationship within a service system. Assuming responsibility or demonstrating responsible behaviour is a concept expressed in the judgment of a certain expectation to act. In other words, a consumer's ethical interaction is their ability to act in a fair and non-opportunistic way towards their resource-exchange partners (Karpen et al., 2012). This expectation is not without obligations (Callahan, 1988). Actions based on moral responsibility have an authoritative and binding character, at least in the view of the attributing and judgmental party. Responsibility as a

concept gives meaning to interactive processes between the focal consumer and his/her exchange partners (Fischer et al., 2003); thus, it can facilitate value co-creation processes.

- 4) *Personal Interaction*. The relationships between the consumer and the service provider are reciprocal processes that involve careful management of the personal interactions between the exchange parties (Jaakkola and Alexander, 2014). The nature of personal interaction has been considered instrumental in the evaluation of service exchange (Solomon, Surprenant, et al., 1985). Interactional aspects—such as courtesy, friendliness and respect—are the functional qualities that deepen solidarity between exchange partners and ease resource-exchange processes (Kelly et al., 1991; Vargo et al., 2012).

### ***Citizenship behaviour (CB) and the value co-creation process.***

Citizenship behaviour (CB) is the second higher-order dimension of Yi and Gong's (2013) value co-creation behaviour construct. In the context of co-creation, CB is an extra-role behaviour that comprises supportive and voluntary gestures or constructive actions where consumers willingly go the extra mile to create a pleasant and social context that enables others to enjoy and gain from their service experience (Lengnick-Hall et al., 2000; Bolino and Turnley, 2003). Customer-directed CB facilitates help and empathy, recommends solutions, or resolves difficult situations of fellow consumers, and only indirectly affects the service organization (Bove et al., 2009; Groth, 2005; and Yen et al., 2011). Social exchange theory supports the notion of CB among consumers as an effort to maintain relationships with other customers and employees in a belief that their actions will be useful over time (Anaza and Zhao, 2013; Yi et al., 2013). CB illustrates consumers' self-serving mechanisms through serving others for the betterment of their own circumstances. In other words, through citizenship behaviour, consumers are able to facilitate continuity in conscious socialization and reduce the level of uncertainty of resource exchange. Similar to PB, citizenship behaviour is conceptualised as manifestations of four unique sub-dimensions: feedback, advocacy, helping and tolerance (Yi and Gong, 2013).

- 1) *Feedback behaviour*. Feedback includes sought and unsought information that customers provide to the service provider and others, which helps to improve service experience in the long run (Groth, 2005). Feedback is an assessment of service offerings, which is an invaluable input for other consumers in reformulating the overall nature of services/resources being offered. In a service system, consumers are in a distinct position to offer guidance and suggestions (resources) to exchange partners because they may

have significant experience with the service-exchange mechanism (Bettencourt, 1997). For example, consumers interested in participating in Comicon conventions—events that create awareness of, and appreciation for, comics and related art forms—may seek feedback and suggestions from other fans about the overall entertainment value.

- 2) *Advocacy*. Advocacy is referred to as consumers' willingness to voluntarily promote firms' services to their social group (Lacey and Morgan, 2009). Regarding the resource integration process, advocacy can be conceptualised as the disposition to stand behind other members (fellow consumers and/or service providers) to offer credibility to the service offering or fellow consumers, which can be used as tools for future exchange negotiations. For example, an overenthusiastic Comicon fan may wish to organise a miniature Comicon event in the local community, but may require other Comicon fans to advocate him/her for the broadcasting and the success of the fest to others in the community. Though advocacy behaviour is not a mandate for successful value co-creation, it may be a potential way for consumers to a) strengthen their relationship with other exchange partners (consumers and/or service providers) by displaying commitment; and b) consolidate their social roles and positions as "opinions leaders" or "mavens" influencing others' behaviours within their social group for mutual benefit.
- 3) *Helping*. Helping behaviour is any action providing benefit to a person(s) in need of aid with no prior promise for a reward in return (Bar-Tal, 1982). In a service system, helping behaviour can increase the efficiency and effectiveness of service provision, where co-creators go beyond the requirement of service provision to assist their exchange partners (Bettencourt and Brown, 1997). Such helping behaviour strengthens relational cohesion between alliances during resource integration processes (Davis, 1994).
- 4) *Tolerance*. Tolerance is defined as consumers' willingness to accept a level of resources from exchange partners that does not match their expectations (Parsuraman, 1993). Consumers' zone of tolerance is characterized by, for instance, their past experiences, word of communication, service promises made by the provider, and service recovery expectations (Kelly and Davis, 1994). Service failures are a significant cause of customer-switching behaviours, which damage providers' market equity. Specifically, in regards to co-creation processes, consumers' mutual tolerance levels enable them to be patient while dealing with each other—not merely during service delays and failures, but also during daily exchange interactions. Tolerance behaviour assists in accepting the idiosyncrasies of exchange partners while interdependently integrating resources.



Overall, the VCB concept introduced by Yi and Gong (2013) offers a comprehensive perspective of service enactments to co-create desired outcomes. VCB thus allows an exploration of specific processes that are involved in value co-creation. Such an understanding assists in establishing a better base for value co-creation focused research and managerial decisions. Despite the significance of the construct in service literature, an explicit understanding of the mechanisms that explain how such behaviours emerge or facilitate co-creation processes is missing.

Extant co-creation literature has conceptually investigated potential antecedents of VCB (Yi and Gong, 2013; Yi, 2014; Gallan et al., 2012). Drivers—such as role clarity, procedural justice, interactional justice, distributive justice, customer socialization and customer positivity—offer useful understanding into aspects of VCB. However, Laud et al. (2015) suggest that consumers' social constellations drive their prospects of securing resources through value co-creation processes. Yet, securing resources requires cultivating behaviours that facilitate collaboration among consumers. Therefore, an investigation into the impact of embeddedness as an antecedent of VCB will shed light on how interdependent relationship structures operate as resource reservoirs in shaping and encouraging co-creation behaviours. Consumers' embeddedness has the potential to explain how relational constellations promote diffusion of resources for co-creation within service systems. Additionally, Laud et al. (2015) suggest consumers' embeddedness has the potential to impact cognitive capabilities to maintain, reinforce and/or discourage co-creation behaviours among interacting partners; however, they call for further empirical analysis to validate this proposition.

Similarly, the stream of value co-creation research that focuses on understanding value outcomes of resource integrating market actors (such as consumers) is limited. Gummerus (2013) suggests that value co-creation processes and outcomes from a customer perspective will assist in advancing our knowledge of how to strategically manage and manoeuvre co-creation episodes among interacting consumers. Recent studies (e.g. Revilla-Camacho et al., 2015; Vega-Vazquez et al., 2014; Gallan et al., 2012) have conceptualised customer turnover and customer satisfaction as outcomes of customer participation and citizenship behaviour.

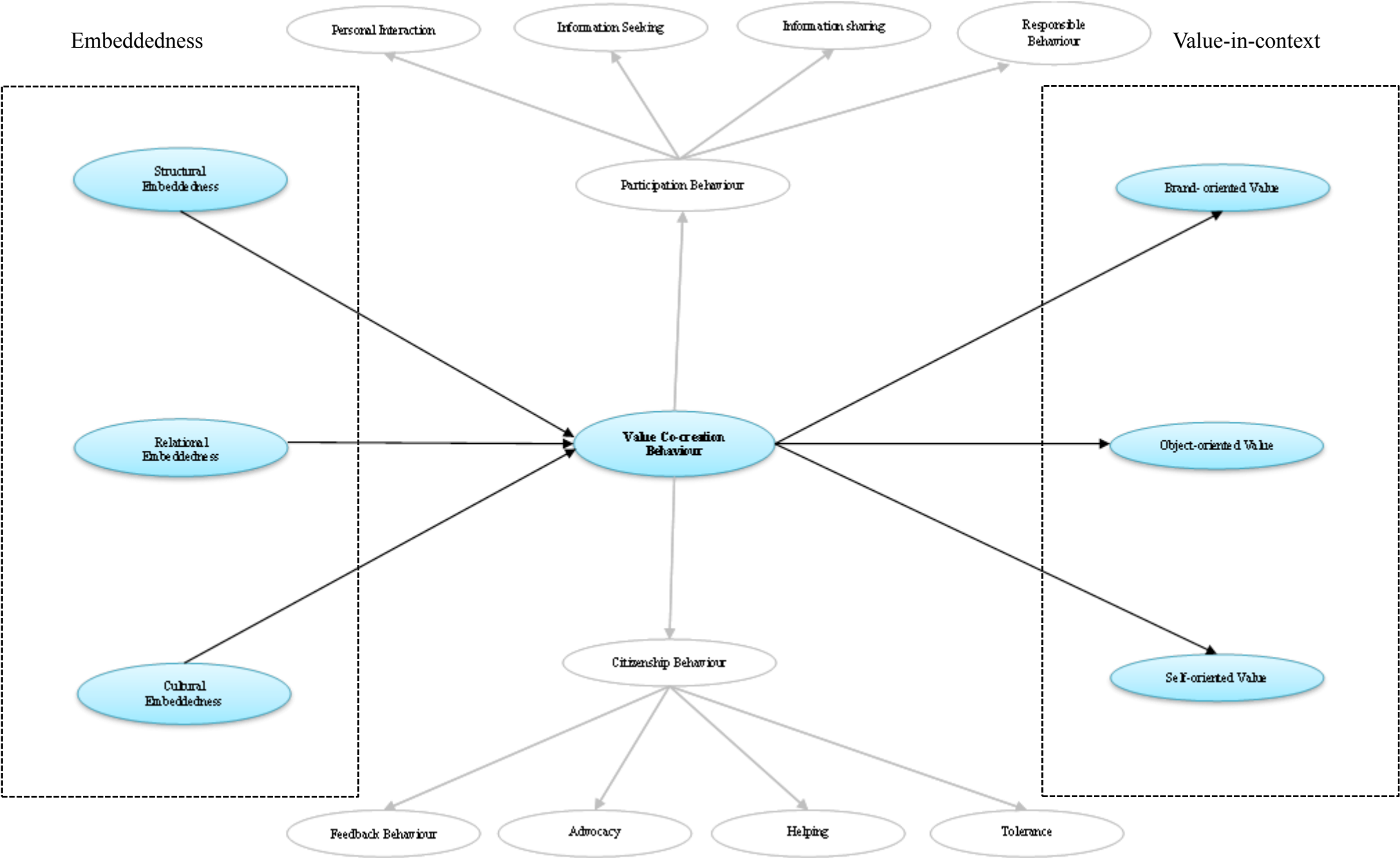
Although useful, the current literature falls short of explicitly attempting to understand consumers' value-in-context outcomes as proposed by Vargo and Lusch (2008). According to S-D logic, in a service system, the locus of value creation is the process and context where resource integration occurs. Consumers entrenched in service systems have embedded resources that are shared with other consumers for mutually beneficial experiences. In doing so, consumers accrue value during the process for the betterment of individual current circumstances and the overall well-being of the service system (Vargo et al., 2008). As their circumstances change, consumers feel the

need for new resources to maintain or improve their situation, and hence participate in continual exchange of resources (Chandler and Vargo, 2011). In other words, consumers seek outcomes that meet their contextual needs; therefore, co-creation outcomes are not static benefits. Given the importance of contexts in conditioning the plausibility of subjective benefits, little research contemplates the significance of value-in-context (e.g. Löbler and Hahn, 2013) as a suitable measure to capture co-creation outcomes. In summary, only limited research explicitly links the concept of VCB, its antecedents and consequences in an integrated nomological network to understand consumer co-creation processes in service systems.

## **CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT**

In the following, hypothesis development is represented by the proposed conceptual framework depicted in Figure 1. Consistent with Yi and Gong (2013), value co-creation behaviour is conceptualised as a multi-dimensional construct. Based on the literature subsequently discussed, three dimensions of embeddedness—structural, relational and cultural—are hypothesized in order to study their influence on value co-creation behaviour. Similarly, three outcome values—object-oriented, self-oriented and brand-oriented—are hypothesized to understand benefits that consumers seek by participating in acts of co-creation within service systems. Object-oriented, self-oriented and social-oriented values manifest how consumers draw on other consumers and/or brand and non-human resources to actualise their desired outcomes.

Figure 1: Proposed Conceptual Model for Antecedents and Consequences of Value Co-creation Behaviour



## *Embeddedness as Antecedents of Value Co-creation Behaviours*

Embeddedness is a concept with its roots in sociology literature. Consumers' embeddedness can be described as the set of social constellations between individuals (as well as aggregate groups of individuals or organizations) that, in turn, creates distinctive patterns of opportunities and constraints for economic action and behaviour (e.g. Hess, 2004; Jessop, 2001; Zukin and DiMaggio, 1990). Embeddedness emerges due to the time and effort invested in maintaining relationships (Gnyawali and Madhavan, 2001). Importantly, embeddedness offers a rationale to understand how consumers' contexts impact their resource integration enactments. Uzzi (1999) argues that embeddedness has profound behavioural consequences that influence the success of value creation. By employing social capital theory (SCT) in conjunction with S-D logic, Laud et al. (2015) foreground the notion of embeddedness for a comprehensive knowledge of how and where investments in social relationships occur. The link between embeddedness and co-creation processes is important in how co-creation behaviours are cultivated among interacting resource partners.

Laud et al. (2015) propose three facets (dimensions) of embeddedness: structural, relational and cultural in a marketing context. Each type of embeddedness has distinct implications for VCB. *Structural embeddedness* refers to the number of social connections that a consumer has in his/her network. *Relational embeddedness* indicates the relational strength a consumer has with his/her exchange partners. Although marketing researchers have considered structural embeddedness (Czepiel, 1974) and relational embeddedness (e.g. Johanson and Mattsson, 1987; Gemunden et al., 1997; Ford et al., 2002; Chien et al., 2012) for establishing several conceptual perspectives in marketing (see Zafeiropoulou and Koufopoulos, 2013; Watts and Dodds, 2007), but their role for shaping VCB among consumers has not been investigated. Importantly, the nature and explicit role of *cultural embeddedness* and its connection with VCB has been largely neglected. Beyond the mere accessibility of resources, scholars suggest (e.g. Akaka et al., 2013) that cultural consumers play an instrumental role in activating appropriate co-creation behaviour for resource integration. Extant research supports the significance of cultural forces in shaping individual behaviours. However, empirical research has not been undertaken that specifically explores the relationships between cultural forces (such as "shared beliefs" and "moral conducts") in a way that focuses on the role of consumers' embeddedness as an antecedent of VCB.

### ***Structural Embeddedness.***

Structural embeddedness represents configurations or quantities of individuals' total relationships (Rowley et al., 2000) indicated by the network size or presence or absence of ties between the exchange partners (Moran, 2005). The structuralist conception of embeddedness has unique advantages in having a large network of relationships versus having small networks (Burt, 1980; Coleman, 1988). Connectivity is central to individuals' behavioural patterns. As Emerson (1962) suggests, having more contacts creates more alternatives for obtaining a valued resource, and more influential ideas, as well as more control over the use of those resources that shape behaviour. Moreover, active ties facilitate voluntarily-initiated co-operative alliances that may lead to the co-development of valued outcomes. Structural embeddedness indicates an individual's involvement in developing and maintaining new resource-exchange partners. Burt also agrees that "bigger is better", but notes that size is a double-edged sword (Burt, 1992). To an extent, consumers have an incentive to keep their networks at a manageable size and to choose their key contacts carefully, as very large networks can be difficult to maintain and could suffer from diminishing returns.

In the context of co-creation processes, consumers' structural embeddedness can have a significant impact on their VCB. Structurally-embedded individuals may be exposed to a greater number of resources that may influence their VCB; thus, due to a higher number of exchange partners, a consumer can opt for different options when integrating during co-creation. Likewise, structurally-embedded consumers may be at a unique advantage of being able to distribute resources to more partners and stimulate VCB. Additionally, research (e.g. Rowley et al., 2000) suggests structurally-embedded consumers can offer more opportunities for innovation and early access to valuable resources due to their high potential network size. Early acquisition of resources can facilitate co-creation experiences in a timely manner, thus limiting service failures and frustrations among beneficiaries and further encouraging positive VCB. It follows that structurally-embedded consumers can offer competitive advantages in marketplaces through their communicative and transitive characteristics, which will directly control their VCB in service systems. Therefore, Study 2 posits:

**H1:** *Consumers' structural embeddedness positively affects their value co-creation behaviour in a service system.*

## ***Relational Embeddedness***

The strength of one's relationship with their exchange partner—strong or weak—that one develops over a history of interactions indicates one's relational embeddedness (Granovetter, 1992). Strong cohesion between exchange partners has particular relevance for flexibility, information exchange and solidarity within the group (Macneil, 1980). Bilateral expectations of the willingness to adapt as circumstances change exist among exchange partners in covenantal relationships, thereby they are more likely to proactively provide useful information to either party and prescribe behavioural guidance for resource integration. In the context of VCB, the more that exchange partners are mutually connected and in a close relationship (relationally embedded), then the more efficient the spread of information and influence on each other's behaviours (Granovetter, 1992).

Research suggests (e.g. Lee, 2007) that information quality and information quantity are directly impacted by individuals' relational strengths. In other words, exchange partners are willing to share more meaningful information with their close alliances as opposed to distant relationships, indicating that relational embeddedness has an impact on consumers' information-sharing VCB. Indeed, relational embeddedness assists in developing emotional mechanisms through cohesion, such as liking and favouritism (Lawler and Yoon, 1996). Such mechanisms may have significant effects on consumers' VCBs. Similarly, consensual obligations arising out of cohesive relationships may lead to continuity in co-creation behaviours for exchanging resources, thereby reducing the uncertainty of access to valuable resources between coalitions. Likewise, relational embeddedness may reduce the use of authority in imbalanced linkages resulting in a more egalitarian distribution of resources during resource trades. Such cohesive partnerships lead to enjoyment of joint tasks and shared responsibility.

In addition, Granovetter (2005) suggests strong reciprocal relationships are more amenable to a joint contribution of resources. The need for steady resource flow and the continued development of value outcomes is a motivation for reciprocal relationships, which prompts VCB to facilitate co-operation in resource-exchange activities. Therefore, in anticipation of future benefits, consumers may occasionally prompt behaviours that are voluntary gestures towards their exchange partners (for example, helping fellow consumers with service usage). On the other hand, consumers maintain acquaintances or weak relationships outside their core social group. Such relationships are also a source of new resources and assist in reducing in-group resource redundancy. Consequently, consumers have a vested interest in being relationally embedded in a service system, as it may assist in more easily activating and influencing VCB among exchange partners. Therefore, Study 2 posits:

**H2:** *Consumers' relational embeddedness positively affects their value co-creation behaviour in a service system.*

### ***Cultural Embeddedness.***

Shared understanding has a significant influence on individuals' behaviour in a social group (Zukin and DiMaggio, 1990). The degree to which a consumer internalises the shared understanding of rules, norms, symbols and values is indicated by their cultural embeddedness. These rules align the belief system of an individual with that of the group and elicit a higher sense of belonging and participation (Davis-Floyd and Davis, 1996). Consumers tend to self-identify by aligning personal values with those of the social group (Caldwell and O'Reilly, 1990). Social identity theory suggests that individuals having high resonance with group norms and beliefs with their exchange partners tend to participate and get involved in joint activities (Funk et al., 2004).

In the context of value co-creation behaviour, a shared understanding between exchange partners at the individual level can assist with the evaluation of exchange norms and ease the interaction without losing valuable resources due to misinterpretations of shared expectations. Similarly, consumers simultaneously enacting different social roles need to conform to shared practices that are distinct to a service system. Concurrent understanding and compliance with different cultural forces can be challenging. Hence, a consumer's degree of cultural embeddedness is a significant factor that provides a reference framework for cognitive evaluation to consumers for institutionalizing their actions or resource-related practices within a service system.

Further, culture is viewed as a mediator for the interpretation of a particular resource that is applied by a certain person at a specific place and time. Therefore, consumers are culturally embedded if they have a higher shared understanding of cultural factors and nuances existing within a service system. Culturally-embedded consumers tend to conduct appropriate behaviours and courses of action while participating in resource integration activities (Laud et al., 2015). Cultural symbols act as resources that are valued and generated collectively as public goods. Obligations to observe guidelines or cultural forces of operations provide better access to resources and impart consensus and directionality to individual actions.

A culturally-embedded consumer may be motivated by self-directed voluntary actions to help fellow consumers with useful information and thus contribute towards the continuity of the cultural resource of the service system. For instance, members of the Weight Watchers Community have a practice of celebrating every weight loss milestone achieved by their members, or

counselling each other by sharing narratives of their weight-management journeys. Such behaviours and practices create cultural resources for everyone to draw on, and to interpret from, when designing their own experiences. Besides, by drawing on shared cultural resources, consumers preserve the culture that shapes and sanctions relevant value co-creation behaviour among consumers of a system. Therefore, Study 2 posits:

**H3:** *Consumers' cultural embeddedness positively affects their value co-creation behaviour in a service system.*

### ***Value-in-context as a Consequence of Value Co-creation Behaviours***

S-D logic describes co-created value as an outcome of the resource integration process (Kleinaltenkamp et al., 2012). Although the structure or organization where consumers are participating in resource integration acts as a facilitator of value-creation opportunities (Laud et al., 2015), the co-created value is always *phenomenologically* experienced by the consumer (i.e. the co-creator). However, the application of resources for co-creation of value is dynamic and occurs in a highly networked relational context (Chandler and Vargo, 2011). As a result, consumers' circumstances are actively changing and reforming with every act of resource integration in which they participate. This ongoing modification of contexts calls for adapting sets of resources, expectations and behaviours to be evoked and actualised for continuity in resource flow and gaining desired outcomes. Thus, consumers who interact to co-create value for themselves also contribute to creating value for others by means of altering the contexts where interaction occurs. S-D logic refers to such outcomes as value-in-context (Vargo and Lusch, 2008). The concept of value-in-context usefully clarifies the contextual nature of the resource integration process in the following statement: "The context of value creation is as important to the creation of value as the competences of the participating parties" (Vargo et al., 2008: 150).

This indicates that if the likelihood of an actual value outcome to the consumer is high, consumers will initiate and demonstrate favourable behaviours for resource integration (Wigfield and Eccles, 2000). However, limited empirical work in S-D logic (e.g. Löbner and Hahn, 2013) captures value-in-context as consequences that consumers participating in resource integration desire or accrue. In line with Löbner and Hahn (2013), it is argued that consumers' value co-creation behaviour in a given context influences their object-oriented values, self-oriented values and social-oriented values as explained below. Further, when multiple social and economic consumers are involved in co-creation, the perspective needs to be anchored to a certain market actor; for example, from the customer's, firm's or other stakeholder's perspective (Gummerus, 2013). In this study,



value-in-context outcomes focus on consumers. This perspective offers a unique opportunity to understand how consumers derive benefit from each other and co-create their experiences through resource usage in a service context.

Löbler and Hahn (2013) consider value-in-context as an outcome in view of the total situational factors (object-oriented, self-oriented or social-oriented) relevant to the co-creation processes. They suggest that consumers can use and create value experiences for themselves by utilizing any resource available in a specific context. For example, in the Weight Watchers online community, consumers can learn about new diet plans by reading through shared consumer narratives and listening to webinars and podcasts on service usage, and thereby can accomplish their weight-management goals. The tools/objects are used as resources to achieve valuable experiences. Löbler and Hahn (2013) describe such interactions as I-It and It-I, which are also referred to as object-oriented value. Object-oriented value is the usage of nontangible resources to reach goals and to maintain sustainable competitive advantages. Drawing on the organizational literature based on resource and capability theory (Ordóñez de Pablos, 2004), this study argues that consumers interact with various non-human assets that are available to them to accomplish their objectives.

Consumers are striving to capitalize on the productive potential of resources in order to seek uniqueness to their own resource capabilities that will lead them to their milestones. Further, social capital theory (SCT) supports the understanding that individuals have an inherent need for the gathering of resources for self-preservation and growth (Lin, 2001). In doing so, consumers are learning about new resources, and thus improving their skills for creating, acquiring and transferring resources and for modifying their co-creation behaviours to reflect the new knowledge and insights that they gather. Consequently, consumers engage in VCB with nontangible resources to gain greater control of them in order to make more substantial contributions towards achieving their goals and developing value experiences. This indicates co-creation efforts better enable consumers to integrate the right resources at the right time to achieve the right outcomes. Consumers effectively participate in resource integration by gathering the necessary resources from their contexts and adapting them to meet their contextual needs. Therefore, Study 2 posits:

**H4:** *Consumers' value co-creation behaviour positively affects their object-oriented value in a service system.*

While object-based value is related to involving nontangible resources situated within contextual frames, self-oriented value is concerned with self-expressions. Löbler and Hahn (2013)

suggest individuals interact with themselves using internal resources to create value-in-context; this is called an (I-me) interaction or a self-oriented value. A consumer's self-oriented value emerges through exercising internal resources (e.g. self-regulation, self-control) that may lead to outcomes that satisfy self-transcendent goals. For example, consumers co-creating in the Weight Watchers Community may exert self-regulation mechanisms to relieve the stress of managing weight goals by sharing their frustrations with other members. Such activities are considered beneficial coping mechanisms and help maintain quality of life (Ekwall et al., 2007). Self-expressions of emotion in service encounters lead to facilitating effective resource exchanges (Ashforth and Humphrey, 1993).

Consumers are often driven to stimulate internal psychological forces to relieve pressures through various behavioural defence mechanisms. At times, consumers may engage in VCB through careful presentation of verbal or nonverbal cues that will lead them to derive enjoyment for personal wellbeing. Similarly, consumers may articulate spontaneous and genuine emotions to articulate VCB that will lead to self-based values. Additionally, consumers may express themselves to conform to the expectations of the group; conformity is rewarded within a group, and enables the strengthening of self-identity and self-concept. Self-concept has been associated with psychological wellbeing (Ryff and Keyes, 1995). Overall, consumers are self-systems (Bandura, 1991) that can make use of internal resources (e.g. emotions) and engage in VCB to interact with external contexts and generate self-oriented value outcomes. Thus, the usage of, and interaction with, internal and/or external resources assists in the self-regulation and control of resources. This may empower consumers to contribute towards gaining desired outcomes. Therefore, Study 2 posits:

**H5:** *Consumers' value co-creation behaviour positively affects their self-oriented value in a service system.*

According to Löbler and Hahn (2013), social-oriented value is sought through engaging with other exchange partners. The authors describe these interactions as (I and You, You and I), and such interactions assist in developing feelings of belonging or getting heard by others (DeWall et al., 2008). For instance, Weight Watchers Community members may spend time interacting with exchange partners discussing various weight-management issues just to be heard and experience warmth. Further, the study suggests that modifications in behaviour are signs of promise and devotion to resource exchange processes. However, this study considers Löbler and Hahn's (2013) social-oriented value through brand-oriented value, where social-oriented value—as addressed by Löbler and Hahn (2013)—is the relational value an individual seeks by connecting with others. Our study captures relational constellations by means of embeddedness. Specifically, structural and

relational embeddedness addresses social considerations with regards to Löbler and Hahn's (2013) study. Therefore, this research conceptualises social value in the form of the relational value that consumers derive by interacting with brand as a resource exchange partner. By drawing on the consumer-brand relationship literature, (Fournier, 1998) argues that a brand is a tangible resource partner that has the potential to facilitate co-creation outcomes.

As a focal brand can become an active social partner in resource integration processes, then brand-related value outcomes would seem highly relevant. Specifically, this study theorises a brand as a resource with partner-like qualities. Accordingly, by engaging with brands as exchange partners, consumers can gain social value in the form of *brand intimacy*. Brand intimacy is a construct that attempts to capture the closeness in the connection that is formed between consumers and the brand toward the prediction of relationship stability over time (Ind et al., 2013). Fournier (1998) accentuates the importance and the conceptual richness of emotional and affect-laden ties that exist between consumers and their brands. To capture the perceived closeness between the consumers and a focal brand, it is essential to understand how consumers perceive the brand as a resource exchange partner. For example, consumers in the Weight Watcher Community may feel that brand is an engaged listener and, due to its positive orientation, adheres to relationship contracts and is also accountable for its actions (Perlman and Fehr, 1987). Thus, a brand can offer, for example, information, esteem and emotional support to community members. Strongly held brands are categorized as exceptional and unique, to the extent that separation anxiety can be predicted upon withdrawal (Berscheid, 1983). Feelings of love also encourage a biased, positive perception of the partner (Murray et al., 1996). The interdependence and integration of resources that occur between a brand as an exchange partner and consumers results in perceived brand intimacy. Particularly, consumers' VCB (e.g. personal interaction) with the brand symbolizes their self-connections, making the brand reinforced through co-creation processes in which a focal brand is used or interacted with.

Similarly, brands that listen are perceived as responsive and responsible when interacting with consumers, which helps build social expectations. Positive interactions with a brand will lead to a perception of a brand's willingness in executing partnership roles. In summary, the richer the layers of behavioural interaction, the deeper the layers of intimacy in relationship bonds. Such meaningful interactions help store brand-relationship memories and experiences that accumulate over time, and further enhance intimacy between consumers and brands during service-exchange episodes. At a higher level, brand intimacy is considered as a beneficial outcome for the firm, and one that facilitates co-creation processes.

Hence, the study argues that greater interaction with, and usages of, brand-related resources enables higher brand intimacy through VCB. Specifically, in a service context, a perceived relational closeness between consumers and the brand supports the co-creation efforts to gain benefits. Therefore, Study 2 posits:

**H6:** *Consumers' value co-creation behaviour positively affects their brand-oriented value in a service system.*

## METHODOLOGY

The proposed framework is tested within a firm-facilitated online service environment of an international weight management firm. Our industry partner is a market leader in the weight management industry in Australia. The purposefully chosen context offers various co-creation avenues for its members/consumers to evoke VCBs. All consumers of the firm are given membership to the online forum. As part of their online membership, members are afforded opportunities to develop their own personal social groups and also to interact with others in and outside of their social groups. Members engage in events, workout challenges, recipe swapping, exercise tips and how to manage food cravings. Additionally, user groups (such as Fitbit) exchange information about using Fitbit products, etc. Resource integration opportunities emerge as initiated both by the firm and by members of the forum themselves, which allow them to share and distribute resources with other exchange partners (for example, sprint triathlon groups). Overall, the online forum context offered a perfect fit between data collection and research purposes, as conditions within the forum reflect a social community environment wherein individuals maintain relationships to actualise value outcomes. The extant body image and weight management literature (e.g. Wooley et al., 1979, Crawford and Worsley, 1988; Tiggemann, 1992) highlights the significance of community and social relationships to achieve relevant weight management outcomes. The forum interface and activities encouraged forum members to participate in resource integration for mutually beneficial value.

### *Data collection and Sample*

A survey was emailed to online forum members (**n=583**), where incentives were offered as an appreciation of their participation in the survey. Survey reminders were sent to the participants. A total of 263 members started the survey, which resulted in a **44.5%** initial response rate. Of these, 61 questionnaires were discarded because they were significantly incomplete and 202 were used for further data analysis. As result, the final response rate was **34.64%**.

The data collected reflected the nature of the Australian weight-management industry. According to an IBIS (2015) report, this industry primarily focuses on female consumers since concerns with body weight are common and particularly relevant for women. A number of studies have shown marked gender differences in the importance placed upon body size and shape. Women express more concern and are more likely to perceive themselves as overweight than are men (Wooley et al., 1979). While more men are medically defined as overweight, more women consciously adopt weight-management strategies to lose weight (Crawford and Worsley, 1988; Tiggemann, 1992). Hence, the majority of survey respondents were females (**97.5%**), with a mean age of **46 years**, and who had received a tertiary/graduate level of education (**31.2%**). It was also observed that **82.6%** of respondents were employed, and **45.5%** reported incomes in the range **\$51,000–\$110,000** Australian dollars. A total of **87%** of respondents had lived in Australia for more than five years. In terms of the respondents' community participation characteristics, **48.5%** of respondents visited the online forum daily and 37.5% had been members of the forum for more than 24 months. Respective control variables (e.g. age, gender and frequency of visits to the forum) were used; however, they showed no significant effect.

### ***Measures***

Existing scales were adapted for measuring all constructs applied in this study. Questionnaire development began with pre-testing the survey for clarity and readability. Pilot testing was conducted with ten employees of the firm, who operated as personal consultants interacting with forum members. During pilot testing, respondents were asked to consider their interactions with other members of the forum. Pilot respondents and brand managers were asked for their suggestions to improve the survey instrument. This analysis revealed that the survey instrument was generally sound and only minor modifications were made to improve its clarity. All scales used in the pretests were examined for internal consistency, uni-dimensionality and content validity. The final adapted measures of the key constructs are shown in **Appendix I** and discussed in detail below.

#### ***Structural embeddedness***

Structural Embeddedness is typically assessed by a consumer's overall network of contacts and the amount of their active ties as suggested in the social network literature (Burt, 1992; Moran, 2005; Wellman, 1992). Accordingly, two items of structural network constellation from Lechner et al. (2006) were adapted to assess the overall network size of members' total contacts in the forum,

and to determine the active ties that respondents currently had in the forum. They were also asked to recall the number of ties where they interacted on a weekly basis.

### ***Relational embeddedness***

Relational Embeddedness Rindfleisch and Moorman (2003) developed a four-item scale to capture relational embeddedness the degree of closeness among interacting and thus socially connected consumers. In line with the original scale study adopted the scale, we ask respondents to assess their interactions with other members through recalling prior dealings and anticipated future interactions.

### ***Cultural embeddedness***

This phenomenon was assessed by adapting the measure of Barnes et al. (2006) addressing cultural norms and values. In the context of co-creating consumers, values represent enduring beliefs through which one perceives self-definitions that lead to asserting and associating one's self to specific cultural groups (Dequech, 2003). These value systems are described in terms of intensity, and how strongly they are held and how widely they are shared by the market actors (consumers). Strong cultures significantly influence consumers' behaviour (Badovick and Beatty, 1987). By adapting the Barnes et al. (2006) seven-item scale for cultural embeddedness was established that addressed respondents' understanding of the rules and codes of conduct of the community.

### ***Value co-creation behaviour***

The VCB scale (Yi and Gong, 2013) was adapted and employed as a higher-order construct, as suggested in the original article. Consumers' behaviour was captured by means of eight original sub-behaviours, which included information seeking, information sharing, responsible behaviour, personal interaction, feedback, advocacy, helping and tolerance. In line with Yi and Gong (2013), four items for each sub-behaviour were slightly adapted to fit our research context. The scale addressed the consumers with regards to behavioural patterns when interacting with each other and their forum activities.

### ***Value-in-context***

Consistent with Löbler and Hahn (2013), consumers' value-in-context was captured by means of their "object-oriented value", "self-oriented value" and extended "brand-oriented value".

As highlighted earlier, the dimensions were adapted to fit the purpose and context of our study. Two items from object-oriented and self-oriented value-in-context from the original Löbner and Hahn (2013) scale were excluded from the survey. The item belonging to self-oriented value-in-context, “I can think about spiritually important things” was excluded due to low item reliability ( $IR = 0.466$ ). Literature suggests spirituality is defined as thinking about oneself as part of a larger spiritual force—for example, nature, or a unifying force and the feeling or experience of oneness with nature or unifying force (Corrigan et al., 2003). Despite the significance of spirituality in improving overall well-being among individuals, the research context (online forum) offered limited opportunities to facilitate spirituality among forum members. The second item belonging to the object-oriented value-in-context measure, “It is a lot of fun” was excluded to avoid redundancy. The item is conceptually similar to “It is fun or playful”. In addition, the health psychology literature (Hwang et al., 2010) does not support the notion that weight loss communities specifically seek lot of fun; hence, this study does not capture this dimension.

Nevertheless, health psychology literature offers comprehensive evidence supporting the use of peer-to-peer interactions to achieve weight loss and health goals (e.g. Eysenbach et al., 2004; Bitner et al., 1997; Mo and Coulson, 2008). For example, studies suggest that members in virtual weight loss forums seek information support through advice on diets, nutrition, and the narratives and experiences of others. Forum members engage in stimulating discussions, formulating questions, or declaring topics of interest or educational material by posting messages. Additionally, they seek encouragement and support, and they endeavour to manage their own self-identity (Hwang et al., 2010). Members are thus motivated to achieve health-enhancement goals by boosting their self-esteem through a positive self-presentation of themselves to other forum members. Members offer emotional support to each other by expressing care and counselling during venting out sessions, and by sharing their achievements. They seek non-judgmental, supportive and empathetic interactions. Further, members also seek tangible support; for instance, in the form of task-related activities that help them to achieve their health goals.

Thus, the extant health psychology literature illustrate that members in weight loss communities focus on receiving and sharing information, gaining emotional self-regulation benefits and participating in tasks that enable health improvements. Consistent with this literature, and to fit our chosen research context, this study measured object-oriented value in the form of goal achievement. The study also captured self-oriented value to examine emotional regulation benefits in the form of letting off steam and through community membership. Additionally, the research community was focused on weight loss through program management by being offered opportunities to learn about structured food plans through information and with the help of

emotional support from knowledgeable peers. In particular, the weight loss programs were created to enhance members' contributions to the service-exchange process. In summary, three items each were used to measure object-oriented and self-oriented value-in-context outcomes.

As discussed earlier, the theorization of structural and cultural embeddedness accounted for the notion of social aspects. Therefore, socio-oriented value was operationalized by means of consumer-brand relationships and the benefit of brand intimacy was examined. The three-item brand-intimacy scale from Breivik and Thorbjornsen (2008) was used.

### ***Discriminant Validity and Reliability***

The measurement reliability and uni-dimensionality is assessed using AMOS 22.0 (Arbuckle, 2013). First, confirmatory factor analysis is built using the latent constructs and measures discussed earlier. In order to improve the reliability and consistency of measures, a few low-performing items are dropped for cross-loadings and low variances (see Appendix I, where “\*” indicates the dropped items). Thereafter, an estimated CFA model is assessed by commonly used goodness-of-fit indices. Results show the model fits the data well. The goodness-of-fit statistics for the CFA model are as follows: **Chi-square  $\chi^2 = 992.794$ , d. f. = 688; CFI = 0.949; RMSEA = 0.047; TLI 0.939; and SRMR of 0.0739**. Further discriminant validity of the model constructs was evaluated using procedures suggested by Fornell and Larcker (1981). Results are provided in Table 1. All AVEs (average variances extracted) exceed 0.5 as evidence of convergent validity, and exceed all squared correlations in view of discriminant validity (Fornell and Larcker, 1981). Additionally, all composite reliabilities and Cronbach's alpha values were > 0.7 (Bagozzi and Yi, 1988).



**Table 1: Correlation Matrix, Discriminant and Convergent Validity of Constructs**

Constructs	<i>CR value</i>	<i>AVE</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>
<b>Structural embeddedness (1)</b>	<b>0.745</b>	<b>0.594</b>	<i>1</i>													
<b>Relational embeddedness (2)</b>	<b>0.968</b>	<b>0.789</b>	<i>0.103</i>	<i>1</i>												
<b>Cultural embeddedness (3)</b>	<b>0.934</b>	<b>0.6821</b>	<i>0.044</i>	<i>0.217</i>	<i>1</i>											
<b>Value Co-creation Behaviour</b> personal interaction (4)	<b>0.979</b>	<b>0.919</b>	<i>0.026</i>	<i>0.1155</i>	<i>0.151</i>	<i>1</i>										
advocacy (5)	<b>0.918</b>	<b>0.734</b>	<i>0.015</i>	<i>0.263</i>	<i>0.426</i>	<i>0.108</i>	<i>1</i>									
information sharing (6)	<b>0.904</b>	<b>0.826</b>	<i>0.152</i>	<i>0.47</i>	<i>0.281</i>	<i>0.184</i>	<i>0.309</i>	<i>1</i>								
information seeking (7)	<b>0.768</b>	<b>0.624</b>	<i>0.104</i>	<i>0.29</i>	<i>0.281</i>	<i>0.199</i>	<i>0.338</i>	<i>0.499</i>	<i>1</i>							
responsible behaviour (8)	<b>0.919</b>	<b>0.765</b>	<i>0.051</i>	<i>0.205</i>	<i>0.247</i>	<i>0.199</i>	<i>0.37</i>	<i>0.304</i>	<i>0.345</i>	<i>1</i>						
tolerance (9)	<b>0.825</b>	<b>0.611</b>	<i>0.002</i>	<i>0.040</i>	<i>0.114</i>	<i>0.043</i>	<i>0.260</i>	<i>0.087</i>	<i>0.153</i>	<i>0.227</i>	<i>1</i>					
helping (10)	<b>0.84</b>	<b>0.732</b>	<i>0.142</i>	<i>0.301</i>	<i>0.184</i>	<i>0.170</i>	<i>0.319</i>	<i>0.56</i>	<i>0.43</i>	<i>0.404</i>	<i>0.029</i>	<i>1</i>				
feedback (11)	<b>0.827</b>	<b>0.617</b>	<i>0.044</i>	<i>0.312</i>	<i>0.210</i>	<i>0.132</i>	<i>0.451</i>	<i>0.31</i>	<i>0.259</i>	<i>0.47</i>	<i>0.029</i>	<i>0.35</i>	<i>1</i>			
<b>Object oriented (12)</b>	<b>0.855</b>	<b>0.585</b>	<i>0.010</i>	<i>0.118</i>	<i>0.141</i>	<i>0.088</i>	<i>0.29</i>	<i>0.091</i>	<i>0.078</i>	<i>0.152</i>	<i>0.228</i>	<i>0.095</i>	<i>0.19</i>	<i>1</i>		
<b>Subject oriented (13)</b>	<b>0.78</b>	<b>0.743</b>	<i>0.105</i>	<i>0.139</i>	<i>0.150</i>	<i>0.063</i>	<i>0.188</i>	<i>0.106</i>	<i>0.111</i>	<i>0.124</i>	<i>0.033</i>	<i>0.106</i>	<i>0.17</i>	<i>0.086</i>	<i>1</i>	
<b>Brand oriented (14)</b>	<b>0.97</b>	<b>0.878</b>	<i>0.005</i>	<i>0.117</i>	<i>0.220</i>	<i>0.016</i>	<i>0.39</i>	<i>0.061</i>	<i>0.141</i>	<i>0.165</i>	<i>0.142</i>	<i>0.052</i>	<i>0.22</i>	<i>0.26</i>	<i>0.204</i>	<i>1</i>

## ANALYSIS AND RESULTS

***Common Method Variance*** Two procedures were used to assess and deal with the possibility of common method bias, as suggested by Podsakoff et al. (2003). During the pre-data collection stage, carefully adapted scale items from sources with established reliability and validity were utilized. Additionally, the anonymity of the respondents was assured, and it was indicated that there was no right or wrong answer to the survey questions. In the post-stage, a CFA-based Harman one-factor test (Harman, 1967) was performed. The single latent factor that accounted for all the relevant manifest variables produced an unacceptable model fit (**CFI = 0.448; TLI = 0.419; RMSEA = 0.145**). This suggests that one general factor did not account for the majority of covariance among the measures in this study (Kandemir et al., 2006).

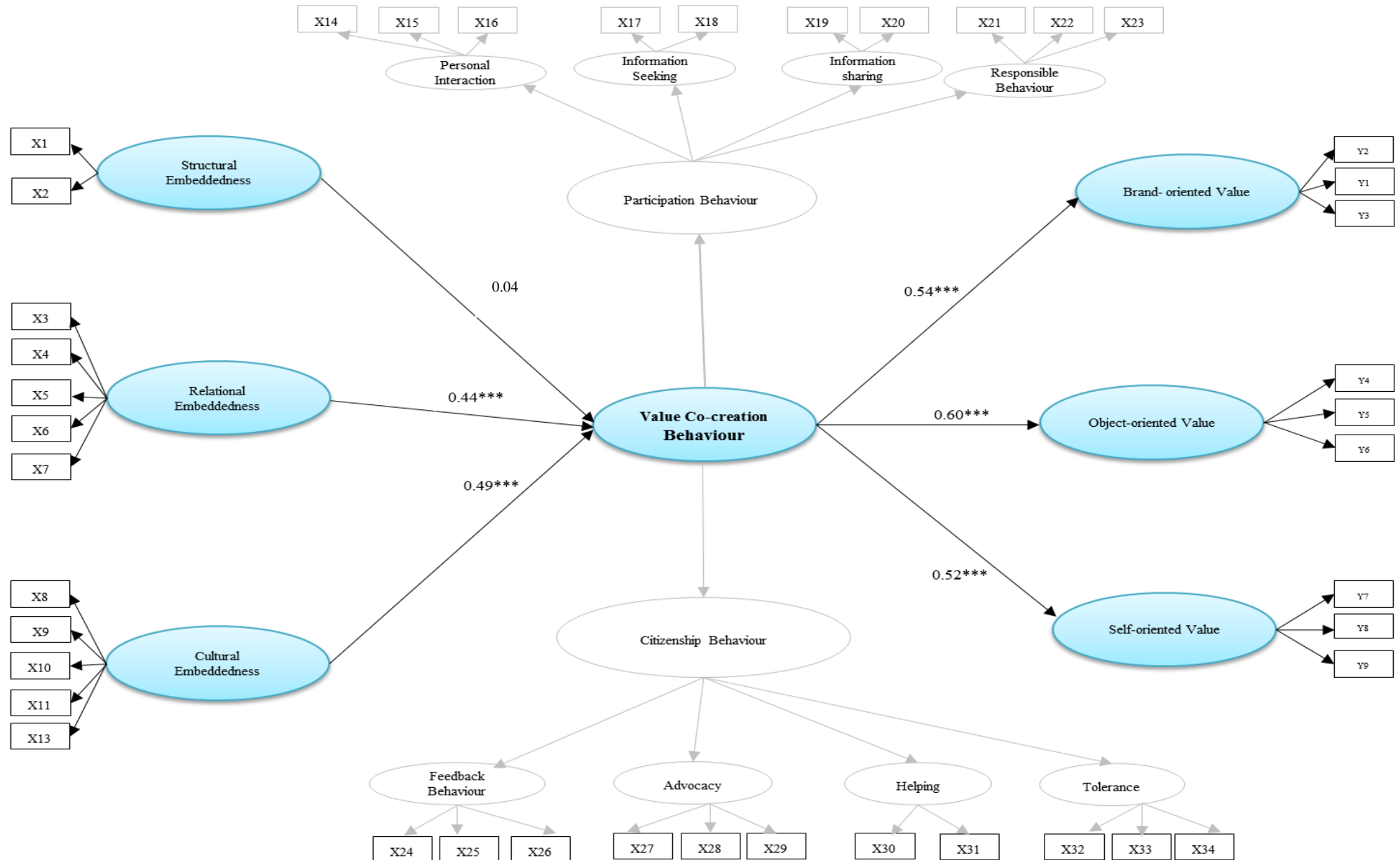
### ***Structural Model Estimation and Hypothesis Testing***

The measures were used to estimate a structural model, as shown in Figure 1. Path coefficients for the hypothesized model were estimated simultaneously in a structural path model. The structural model as shown in Figure 2 indicated an acceptable **Chi-square  $\chi^2 = 1246.109$  with a d.f. = 760; CFI = 0.919; RMSEA = 0.056; TLI of 0.912; SRMR of 0.0754**. The results are in line with acceptable standards in the marketing literature (for example, (Bonner et al., 2004); (Mcalexander et al., 2002); (Revilla-Camacho et al., 2015); (Morgan and Hunt, 1994). Additionally, Byrne (2010) and Hu and Bentler (1999) suggest that RMSEA and SRMR are combinational rules of assessment and informative criteria in covariance structural modelling. RMSEA and SRMR values up to 0.06 and 0.08 are indicative of a good fit between the hypothesized models and the observed data (Hu and Bentler, 1999). The results of hypothesis testing are illustrated in Table 2 below.

**Table 2: Results of Hypotheses Testing for Antecedents and Consequences of Value Co-creation Behaviour**

Hypothesized Paths	Standardized Estimates (SE)	Critical Value (CR)	p-value	Influences
<b>Antecedents</b>				
Structural Embeddedness → Value Co-creation Behaviour (H1)	0.04	0.900	0.535	<b>Non-significant</b>
Relational Embeddedness → Value Co-creation Behaviour (H2)	0.44	6.200	***	<b>Positive</b>
Cultural Embeddedness → Value Co-creation Behaviour (H3)	0.49	6.163	***	<b>Positive</b>
<b>Consequences</b>				
Value Co-creation Behaviour → Object-oriented value (H4)	0.53	5.553	***	<b>Positive</b>
Value Co-creation Behaviour → Self-oriented value (H5)	0.56	5.411	***	<b>Positive</b>
Value Co-creation Behaviour → Brand-oriented value (H6)	0.50	6.746	***	<b>Positive</b>

**Figure 2: Results of Hypotheses Testing for Antecedents and Consequences of Value Co-creation Behaviour**



Note \*\*\* $p < 0.001$

The findings in Table 2 suggest relational embeddedness has a significant relationship with consumers' VCB ( $\beta = 0.44$ ;  $p < 0.05$ ). Consumers' relational embeddedness assists in maintaining close ties that directly influence promoting VCB. Further, a relationship between consumers' cultural embeddedness and their VCBs is posited, and the analysis demonstrates a significant relationship between the two variables ( $\beta = 0.49$ ;  $p < 0.05$ ). Consumers' shared understanding of the cultural values and norms of the service system has an impact on their behaviours during resource integration. Findings support the understanding that consumers in a service system tend to self-identify and align with the shared norms and belief systems, and also expect other members to do the same. Such self-identification helps in creating a common field of understanding about the approved and appropriate behaviours in the system. Interestingly, the results indicate that structural embeddedness has no significant relationship with value co-creation behaviour ( $\beta = 0.04$ ;  $p > 0.05$ ).

Thereafter, the fourth and fifth hypotheses relate to outcomes of VCB, and the value-in-context dimensions of "object-oriented value" and "self-oriented value" are conceptualised to understand how co-creation behaviour impacts consumers' value outcomes. The findings indicate that VCB has a significant relationship with object-oriented and self-oriented outcomes (**H4**,  $\beta = 0.53$ ,  $p < 0.05$ ; **H5**,  $\beta = 0.56$ ;  $p < 0.05$ ). Finally, the research model conceptualises brand-oriented value for seeking socio-emotional connections, where brand is an active relationship partner in the value co-creation process. Therefore, brand intimacy outcome for the brand is examined. Findings indicate a positive relationship between value co-creation behaviour and brand intimacy ( $\beta = 0.50$ ;  $p < 0.05$ ).

## DISCUSSION

### Theoretical Implications

In response to recent calls of research, the paper considers concepts of consumer embeddedness, value co-creation behaviour and value-in-context associated with S-D logic to advance the framework. The primary purpose of this investigation was to identify the antecedents and consequences of VCB. As a significant aspect of co-creation processes in service systems, VCB offers an in-depth understanding of how consumers integrate resources by cultivating necessary co-creation behaviours. Such behaviours have potential for streamlining efficient service exchange, for continuity in reciprocal involvement with resource partners and, ultimately, for competitive advantages in the market. Therefore, understanding the pre-conditions and consequences of VCB

has significant managerial implications. Despite the implications of VCB, a clear and coherent *nomological* network that connects VCB with co-creation processes in service systems is missing. Study 2 begins with proposing two research questions: **RQ1:** *What role does consumers' embeddedness have in determining their value co-creation behaviour in a service system?* **RQ2:** *How does consumers' value co-creation behaviour subsequently influence their value-in-context outcomes in a service system?*

Specifically, the conceptual framework was developed for an empirical examination of the role of consumers' embeddedness in reinforcing or constricting their resource integration capabilities and consequent outcomes as proposed by Laud et al. (2015). Further, the study draws on the extant S-D logic framework to argue how relational constellations facilitate various manifestations of VCB. Moreover, the model operationalizes structural, relational and cultural embeddedness (Laud et al., 2015) as influential conditions nurturing VCB among consumers. Likewise, the usefulness of understanding VCB is illustrated by means of consumers' value-in-context outcomes.

The model was tested in an online service system of a weight management firm, whereby the members were offered various co-creation experiences. The findings indicate that consumers' relational embeddedness and cultural embeddedness play a vital role in shaping their value co-creation behaviour. Findings also suggest that consumers place high significance on investing in maintaining the *quality* of their relationships. Relational embeddedness leads to cohesive relationships that are directed towards developing relational satisfaction. In turn, relational cohesion leads to higher assurance levels, joint participation and contribution of resources between partners. In particular, by developing relational embeddedness, consumers can take advantage of their complementary resources to improve service efficiency and reduce service costs. The relational embeddedness for consumer-consumer or business-consumer facilitates a reduction in perceived risk and uncertainty. For example, consumers may find a referral about a service from their close relationships (such as family and friends) more reliable than one from random strangers. In the forum, members' relational embeddedness in their group was directly influencing their interaction patterns in the system. Hence, close ties are important in stimulating value co-creation behaviour during resource integration process.

Further, the findings indicate a significant relationship between cultural embeddedness and value co-creation behaviour, thus reinforcing the significance of understanding consumers' cultural embeddedness in service systems. There are benefits from aligning one's personal values with that

of the service system, as it assists in building a common field of expectations between exchange partners. Similarly, the shared understanding of norms and codes of conduct of operations during resource integration accelerates the process without any interruptions since it provides a framework for the development of institutional logic. Further, it adds legitimacy to consumers' actions during the exchange, thereby reducing interaction uncertainties and anxieties.

In particular, cultural embeddedness has implications for future acquisition and interpretation of resources as it assists in building organizational memory. Organizational memory is the amount of knowledge, experience and familiarity with value co-creation processes (e.g. relevant behaviours, practices), information of which can be stored for future strategic use (Hult et al., 2007). Forthcoming exchanges are evaluated in light of what already exists; thus, consumers' cultural embeddedness drives the learning processes that are reflected in their value co-creation behaviour. Further, it enables the consumer to (re-)formulate their perceptions and capacities to integrate resources. An acculturated consumer is more likely to be motivated to engage in co-creation and derive enhanced service experience for himself/herself or others in his/her social group.

In this study, the firm had prescribed a set of rules and regulations for members to follow while interacting. The respondents indicated that they had a shared understanding of the general rules for participating in the forum and its common goals. They believed that members should be praised for their achievements or disciplined for disturbing the conduct and social environment within the forum. Overall, the understanding of cultural embeddedness for co-creation advances how market actors interpret and legitimise their acts of co-creation to exercise institutional logics.

In contrast, the findings demonstrate a non-significant relationship between consumers' structural embeddedness and value co-creation behaviour. One logical derivative of economic exchange is that a consumer with larger networks of social contacts is more likely to be exposed to opportunities for resource integration, and therefore more likely to provoke co-creation behaviour. Yet, the results did not support the understanding. Burt (1980) suggests that a large network size can be considered as having its advantages and disadvantages. For instance, consumers' large networks are seen as communicative and innovative since the greater the number of connections, then the bigger the potential resource pool. Still, in this study the forum members drew support only from a small percentage of ties.

The notion of “bystander apathy” (Darley and Latane, 1968) is well documented in psychological research, indicating that non-close ties are less apt to intervene and influence an individual’s behaviour (Burt, 1980). Network theorists suggest a controllable number of strong and weak ties is a good pre-condition for leading a consumer to opportunities for creating relevant value outcomes for themselves (Burt, 1980; Moran, 2005). In reality, it still means that structural embeddedness offers opportunities to acquire resources from the exchange partners. In summary, the in-depth analysis of three types of embeddedness and their influence for shaping co-creation behaviour advances the marketing literature by clarifying the instrumental role that the concept of embeddedness has for progressing future resource integration research.

The ultimate objective of a consumer integrating resources is to experience valuable meaningful outcomes. Therefore, the research employs the concept of value-in-context as a consequence of VCB in order to understand outcomes that consumers seek by engaging in co-creation behaviour. Value-in-context, as a concept, enables the understanding of how consumers expend co-creation efforts to realise their desired experiences by usage of resources in a given context. In doing so, it reinforces the knowledge of how contexts frame outcomes to make them subjective and relative to time, space and situations. This study assists by providing a better understanding to meet the challenge of understanding how consumers uniquely construct their outcomes in specific contexts.

The representation of outcomes of value co-creation behaviour that are object-oriented values, self-oriented values and brand-oriented values is in line with Löbner and Hahn (2013). Our findings offer encouraging support to establish a relationship between VCB and consumers’ value-in-context concepts. The relationship between value co-creation behaviour and object-oriented and self-oriented value was significant; thus indicating that individuals engage in value co-creation behaviour by interacting and transposing tangible and intangible resources available in their contexts to realize object-oriented outcomes. Similarly, the positive relationship between value co-creation and self-oriented value demonstrates individual usage of internal capacities such as (cognition, emotions etc.) as resources for self-reflection and self-regulation to achieve self-enhancing value outcomes. Actualization of the ultimate positive outcomes during a co-creation episode may motivate consumers to evoke more value co-creation behaviours. Similarly, negative outcomes can be seen as learning experiences where consumers can correct their conducts and promote renewed value co-creation behaviours. Particularly, this study accounts for socio-oriented labels through brand-oriented labels to understand how social values are facilitated when brands and consumers are exchange partners. Brand has human-like qualities and is capable of co-creating



via the VCB of intimate relational partners. Respondents indicate their degree of closeness with a brand partner that translates into positive brand intimacy. Our findings have implications for the importance of brand as a resource integrator during co-creation processes, which are in ways that assist in having dialogues and in developing more meaningful relationships. Such meaningful relationships can then transpire into more concrete values for the resource integrating consumers.

Overall, brand as a relationship partner has two benefits; it offers social value to consumers and itself through brand intimacy, and it may further decipher benefits for the firm in service satisfaction and loyalty. In summary, this research advances the literature by highlighting how the success of value co-creation processes and outcomes in service system is reliant on market actors' relational constellations and their behavioural manifestations. Value co-creation research benefits from the findings in the refinement of co-creation process frameworks to account for the understanding of both consumer embeddedness and VCB.

### **Managerial Implications**

The service-driven logic and respective models have transformed the way in which firms are developing their value-creation strategies. In the market ecosystem, resource integration and co-creation of value arise due to entities and interactions, and their capacity for being mutually beneficial. Value co-creation success, in its entire context, requires complaisant behaviours between the consumers. Indeed, the end objective of a firm involves the attainment of individualised value goals for its consumers. The research highlights that firms interested in co-creation experiences will benefit from consumer embeddedness dynamics in order to build systematic refinements based on historical value-creation patterns and future anticipated patterns. Further, the study emphasizes that the supreme source of resources is stored within the customers' social relationships in the form of knowledge, information, experiences or skills.

This suggests that if firms are keen on channelizing the value propositions for the benefit of collective value creation in the market, then it is important to understand how consumer's embeddedness can be leveraged. Once firms grasp the nature of the interconnection between consumers' embeddedness and VCB, they can then choose to amend their value propositions by introducing improvements, fixing weaknesses and eliminating up-stream firm-based processes, thereby enhancing service offerings. Thus, managers charged with reducing traditional service support reliance can develop strategies to inspire specific value co-creation behaviours. A long-term relationship between firms and their consumers takes a deeper meaning when factors such as

security, credibility, reduced uncertainty and continuity are discussed. These factors coherently increase intimacy, and thereby support and/or encourage loyalty.

In this context, brands as relationship partners are uniquely situated within the co-creation process arena. Brands are perceived to have person-like qualities that assist in building intimate connections with its consumers. Therefore, brands can play dual roles as “value facilitators” and “resource integrators”. Further, it would be worthwhile to match customers and service provider representatives (e.g. employees) by their cultural congruencies. If service providers are to consider positive-valued outcomes as a means of strengthening the bonds with customers, then the discussion needs to delve deeper so that customers’ perceived values are met in the long run and not confined to miniature episodes of co-creation.

Getting the consumers involved in creating offerings (coproduction) and marketing processes at a very early stage is crucial in achieving service competence. Thus, by introducing embeddedness as an antecedent of value co-creation behaviour, this study calls on managers to concentrate on promoting the expected benefits of engaging in co-creation opportunities to the consumers. Further, the study suggests that by understanding relational structures managers can empower potential consumers to become frontline employee advocates for promoting VCB for co-creation processes. For example, managers should facilitate and maintain a conducive, cultural environment within service systems that offers a reasonable opportunity for customers to execute service-oriented extra-role behaviours.

Finally, given the significance of customer opinions and referrals, marketers must encourage structural and relational embeddedness. Identifying customers with high credibility in their structural configurations, and fostering relationships with them, may potentially be beneficial. Thus, the connections between value co-creation behaviour, embeddedness and value-in-context offer opportunities to unveil consumers’ capabilities to enter into co-creation processes and accrue-valued outcomes to meet contextual needs for all market actors in a service system. Managers are required to balance each element simultaneously to facilitate successful co-creation processes.

## **Limitations Future Research and Conclusion**

Despite the rigorous approach, this research is not without shortcomings, and these can therefore serve as areas of future research. The study focused solely on consumer embeddedness as the crucial unit of analysis and excluded other stakeholders (such as suppliers and retailers) that may potentially influence resource integration and co-created value. A broad conceptualisation,

which may include multiple stakeholders' embeddedness as a driver of value co-creation behaviour and its impact on specific value outcomes, would contribute to a more holistic understanding of the co-creation process in the market.

In the findings, structural embeddedness was observed to be a non-significant dimension for influencing VCB; nevertheless, structural embeddedness is a means of connecting to other consumers for enactments of VCB. Additionally, Laud et al. (2015) suggest structural embeddedness indicates social roles and positions a market actor holds and executes. Role clarity has a significant effect on consumers' VCB (Yi and Gong, 2013). Future researchers should test our model in different service settings to understand the actual impact of consumer structural embeddedness for their co-creation efforts.

Further, the study considered important consequences of VCB; however, additional consequences—such as repurchase, service quality, customer loyalty, market dynamism and innovation capability—need to be examined to further develop fine-grain knowledge about how to manage VCB among consumers.

Additionally, future researchers should identify the boundary conditions for understanding interlinks between embeddedness and value co-creation. For example, a consumer's psychological factors (such as self-efficacy) may have a significant impact on his/her ability to interact with exchange partners. Similarly, a detailed typology of the different types of motivation would advance the research of value co-creation behaviour. Furthermore, it is a useful endeavour to consider an empirical research to identify additional antecedents that may influence consumers' value co-creation behaviour at different levels of the service system. Lastly, future researchers should focus on the role of brands by employing a resource integration perspective and offering in-depth understanding of how practitioners should develop strategies to embed their brands as active co-creating partners in service systems.

This research concludes that VCB is an integral component of consumers' value co-creation processes with a significant impact on their ability to accomplish co-creation experiences. Evidently, there is a predominant focus on firms to nurture meaningful interactions with their consumers. From a service system's perspective, understanding and managing VCB among consumers results in empowering them in a highly competitive marketplace. Thus, to illustrate the significance of VCB, this study develops S-D logic through an inherent nomological network of VCB and highlights the role of relational constellations in facilitating VCB. The study further

contributes by capturing the efficacy of VCB by means of consumers' value-in-context outcomes and discusses the unique role of brand as a resource integrator. Thus, Study 2 closes the knowledge gap by addressing research calls; it demonstrates empirical evidence to establish the importance of embeddedness in connecting VCB with resource integration processes within co-creation literature; and it opens up new research avenues.

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## STUDY 3

### **The Role of Self-Efficacy as a Boundary Condition for Consumers' Value Co-Creation Behaviour**

#### **Abstract**

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Value co-creation processes are considered as relational and interpersonal exchanges between market actors. However, this understanding does not explicitly discuss the roles that actors' intrapersonal processes such as self-efficacy play as boundary conditions to differentiate individuals in their effectiveness to accomplish value co-creation efforts. An understanding of how intrapersonal forces define actors' unique resource integration abilities and create contingencies for their co-creation efforts within interpersonal contexts will assist in enhancing value co-creation frameworks. Therefore, this study investigates a research model that elaborates the central role played by actors' self-efficacy as a core boundary condition for the success of their in-service co-creation behaviours. A total of 202 respondents were analysed using multi-group structural equation modelling to compare the differences from two distinct consumer groups for high vs. low self-efficacy. The findings indicate self-efficacy has significant moderating effect on the embeddedness dimensions and in-service co-creation behaviour relationships. Findings also suggest consumers with high self-efficacy significantly differ in the abilities to participate and contribute to in-service co-creation behaviours. This study emphasizes the need to better understand actors' value co-creation efforts and outcomes by considering the synchronisation between interpersonal and intrapersonal processes.

*Key Words: Self-Efficacy, In service Co-Creation Behaviour, Embeddedness, Resource Integration*

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## INTRODUCTION

Firms are increasingly embracing value co-creation strategies to strengthen their customer and competitive positions in the market. Meanwhile, academic literature provides an emerging foundation to better understand the underlying mechanisms and activities associated with resource integration processes that play a vital role in realizing the co-creation of value (Vargo and Lusch, 2008). For example, Yi and Gong (2013) introduce the construct of value co-creation behaviour as comprising several dimensions that manifest consumers' interactions with, and usages of, resources to achieve the desired benefits. However, despite recent conceptual and empirical advances (e.g. Sweeney et al., 2015), researchers have yet to identify and examine important conditions that impact such value co-creation behaviours, including antecedents and boundary factors. This is surprising, given the emerging centrality of value co-creation in marketing and service research, and the need to help managers better understand the factors that can strengthen or weaken interdependent resource integration efforts with customers. Such knowledge assists in developing more systematic refinements to value co-creation frameworks. Therefore, the purpose of this study is to examine direct antecedents of value co-creation efforts while considering circumstances that potentially strengthen these relationships.

Co-creation efforts are consumers' behavioural performances that reflect their participation in resource integration processes (Sweeney et al., 2015; Yi and Gong, 2013). In this paper, co-creation behaviours specifically refer to consumers' service task-related behaviours (also referred to as "in-service" or "in-role" behaviours) that manifest consumers' contributions to core resource-exchange activities. In line with both Yi and Gong (2013) and Sweeney et al. (2015), this paper adopts four key dimensions of value co-creation behaviours: personal interaction, information sharing, information seeking and responsible behaviour. The enactments of these in-role co-creation behaviours enable consumers to use and exert a certain level of control over provided and integrated resources to potentially lead to meaningful outcomes. Given the increasingly participatory and contributory role of consumers across business contexts to actualise valued outcomes, a central question emerges as to the conditions that facilitate and/or enhance consumers' performances of such co-creation behaviours.

Recently, Laud et al. (2015) introduced the concept of consumer "embeddedness" as an influential factor impacting consumers' co-creation behaviours. Embeddedness represents the contextualization of ongoing patterns of social constellations that shape behaviours, processes and

outcomes in marketplaces (Hess, 2004; Jessop, 2001). In line with this proposition, Study 2 of the present thesis validates the role of embeddedness as a key antecedent of value co-creation behaviour (Yi and Gong, 2013) and subsequent value-in-context outcomes. In doing so, Study 2 offers invaluable implications for understanding how consumers cultivate resource integration efforts to meet their contextual needs. However, the research follows the suggested higher-order measurement model specification (Yi and Gong, 2013). Thus, it only contributes to understanding the overall relationship between consumer embeddedness and value co-creation behaviour, rather than the impact on individual (and importantly) in-service related participation behaviours. This, in turn, offers the opportunity to delve deeper into understanding the direct relationships between embeddedness and lower-order in-service co-creation behaviours as well as key boundary conditions that may interfere with or facilitate these relationships. Such granular understanding will assist firms in better managing the factors influencing co-creation processes.

To date, co-creation research that is grounded in service-dominant (S-D) logic focuses primarily on relational elements—for example, network characteristics (Vargo and Akaka, 2012), system structures (Edvardsson et al., 2012) and embeddedness (Laud et al., 2015)—to understand resource integration processes within and across service ecosystems. Although these primarily conceptual studies build a robust theoretical foundation to appreciate the relational nature of co-creation processes, they are significantly limited in terms of examining the role of actors' intrapersonal (internal) factors as plausible forces acting in conjunction with interpersonal factors (external stimuli). Such intrapersonal factors relate to cognitive processes manifesting those consumers' personal abilities (e.g. decision making) necessary to participate in co-creation behaviours (Bandura, 2001). This perspective views consumers as reactive entities influenced by external stimuli which, however significantly, limit an understanding of how consumers decide to exercise control and to self-monitor and regulate their own actions for resource integration.

Recently, Hibbert et al. (2012) proposed the significance of individuals' personal factors (e.g. autonomy, sense of self-efficacy) as fundamental conditions to customers' self-directed learning. Self-efficacy is defined as a cognitive process by which individuals perceive their abilities to execute courses of action necessary for dealing with prospective situations (Bandura, 1982; Bandura, 1986, 2001). Hibbert et al. (2012) specifically call for research investigating how consumers' perceived self-efficacy differentiates their levels of skill and their actions to integrate resources for self-directed learning. Moreover, extant psychology literature (Bandura, 2001, 2011; Ryan and Deci, 2000) establishes the centrality of self-efficacy as a key element influencing individuals' actions.



Against this background, this paper conceptualises self-efficacy as a core boundary condition that can act as a critical facilitator or inhibitor for consumer co-creation behaviours. Grounded in S-D logic, this paper examines how self-efficacy impacts the relationship between consumer embeddedness and in-role co-creation behaviours. In doing so, this research illustrates how consumers' intrapersonal forces can create contingencies for their co-creation efforts within interpersonal contexts. Thereby, this paper addresses the following research questions:

**RQ1:** *What is the influence of consumer embeddedness on in-service co-creation behaviours?*

**RQ2:** *What is the role of self-efficacy in view of shaping the relationship between consumer embeddedness and in-service co-creation behaviours?*

This study advances marketing research in the following important ways. First, it illustrates the significance of understanding intrapersonal and interpersonal factors as synergistic forces that influence consumers' co-creation processes. It helps to understand, through empirical investigation, the direct relationships between consumers' embeddedness and in-service co-creation behaviours, and thus provides significant insights and implications of embeddedness as a cultivating condition for consumers' in-service behaviours. Second, this study demonstrates the role of self-efficacy as a vital boundary condition that facilitates or impedes a consumer's ability to exercise control over resource integration by engaging in specific in-service behaviours. In doing so, this paper responds to the call for research by Hibbert et al. (2012) to better comprehend how consumer groups differ in their perceived abilities to participate in resource integration. Moreover, it sheds light on the constituent elements of embeddedness in value co-creation contexts, and thereby responds to a call by Laud et al. (2015) for empirical considerations of embeddedness. Overall, this research contributes to refining the emerging value co-creation perspective in S-D logic (Vargo and Lusch, 2008), and offers significant managerial implications in view of better understanding and (potentially) managing value co-creation conditions for more meaningful consumer experiences.

The remainder of the paper is structured as follows. The paper begins with a literature review to understand the significance of co-creation behaviours and self-efficacy in service systems. Then follows a description of a conceptual model to examine the direct relationships between embeddedness and in-service co-creation behaviours and the moderating effect of self-efficacy. Finally, the results are discussed, along with the theoretical and managerial implications, and avenues for future research opportunities to capitalize on their relationships with customers are explored.

## LITERATURE REVIEW

### *Co-creation Behaviours in Service Systems and Self-Efficacy*

Value co-creation is fundamentally a relational perspective that emphasizes contextual frames within which the enmeshed consumers participate in core behaviours to use resources for mutual benefits (Vargo and Lusch, 2011; Yi and Gong, 2013). The latter is also referred to as resource integration, representing in this case consumer efforts in interacting with and using resources to improve their well-being (Sweeney et al., 2015). A consumer's decision to participate in and contribute to value co-creation behaviours is a basic requirement to facilitate mutual benefits. Thus, such participation behaviours are key task-related activities that enable consumers to fulfil their fundamental behavioural responsibilities in service exchanges. In line with Yi and Gong (2013), Griffin et al. (2007) and Sweeney et al. (2015), this paper refers to such core task behaviours as in-service co-creation behaviours. It further defines them as consumers' participation in, and contribution to, task-related resource integrations that manifest their effectiveness in a service system. A service system is defined as an arrangement of resources (including people, technology, information, etc.) connected to other systems by value propositions (Spohrer et al., 2007).

According to organisational management literature (e.g. Griffin et al., 2007), in-role behaviours are task behaviours that reflect the degree to which an employees' role responsibilities are fulfilled in ways that will impact their performances (Welbourne et al., 1998). Such role enactments are often associated with employees' positions in the social structure. Similarly, role theory suggests that individual ability to effectively carry out role expectations depends on personal attributes and social contexts (Griffin et al., 2007). Further, Griffin et al. (2007) suggest that an employee's potential to contribute to personal, team and organisation level responsibilities depends on their level of connectivity and behaviour in the organisation. It has also been argued that the link between social connections and in-role behaviour is impacted by perceived levels of self-belief and self-control (Bandura, 1991).

Marketing literature also emphasizes service interactions and related role behaviours as determinants of salient expectations between exchange partners (Solomon, Supernant, et al., 1985). Drawing on the above understanding and in the context of co-creation processes, in-service behaviours refer to service-exchange partners' expectations with regards to themselves and others, while interacting for the purpose of mutual benefits. Recently, Sweeney et al. (2015) and Yi and

Gong (2013) identified four types of customer in-service behaviours: 1) personal interaction (which refers to directly interacting with other resource integration partners for mutual service provision); 2) and 3) information seeking and information sharing (which involve the active pursuit and distribution of information to enable better decision making and resource integration); and finally, 4) responsible behaviour (which refers to consumers' compliance with the basic requirements of specific resource-exchange contexts).

However, resource integration processes in service systems occur within multi-actor and multi-level socio-cultural contexts. In other words, consumers' relational constellations have a significant effect on their in-service behaviours in ways that will drive the co-evolution of service systems. Recent advancements in S-D logic research (Laud et al., 2015) suggest that consumers' embeddedness is instrumental in offering opportunities to better integrate resources for desired outcomes. Embeddedness highlights how relational contexts influence consumers' co-creation efforts and outcomes in marketplaces. The three dimensions of embeddedness—structural, relational and cultural—help to explain how consumers connect to each other for effective resource exchanges (Moran, 2005).

Building on Laud et al. (2015), Study 2 of this thesis investigates the impact of embeddedness on overall (higher-order) value co-creation behaviours (Yi and Gong, 2013). While doing so, important direct relationships between individual embeddedness factors and individual in-service participation behaviours have not been studied. Moreover, although the concepts of networks (Akaka et al., 2012), embeddedness (Laud et al., 2015) and co-creation behaviours (Yi and Gong, 2013) offer relevant insights into the implications of relational constellations for value-realisation processes, these perspectives have marginalized the essential intrapersonal capacities of humans to contrive or self-regulate behaviours. Extant behavioural psychology literature considers individuals as “conscious” beings possessing self-regulating natural capacities (e.g. perceptions, thoughts, feelings, plans and choices) that play a distinct role in forming their behaviours (Sandstrom et al., 2003; Edelman, 1989; Barrs, 1993). In a general sense, these cognitive capacities are called intrapersonal forces (Bandura, 1986) within a person. In other words, consumers' intrapersonal forces are critical facilitators or impediments that can drive consumers' decisions to participate in resource exchanges. This suggests that consumers' in-service co-creation behaviours that support desired value outcomes are not straightforward derivatives of their relational contexts. Rather, consumers' endogenic psychological or intrapersonal factors create boundary conditions for the success of co-creation efforts. Despite preliminary insights into the interplay between

interpersonal and intrapersonal forces (e.g. Hibbert et al., 2012), an understanding of their combined effects on consumers' participation in in-service co-creation behaviours is lacking.

Recently, Hibbert et al. (2012) highlighted the significance of personal factors having subjective properties that influence resource integration during self-directed learning. Similarly, psychological factors like self-efficacy are suggested to empower consumers during resource-sharing mechanisms (Conger and Kanugo, 1988). At an interpersonal level, studies argue that the principal sources of consumers' influence over others are a) the structural position of the consumer (Conger and Kanugo, 1988); b) intrapersonal factors like self-efficacy (French and Raven, 1959); and c) the opportunity to access resources (Bacharach and Lawler, 1980). This perspective is supported by socio-cognitive theory that describes individuals as self-organizing, proactive, self-reflecting and self-regulating beings, and not just reactive, mindless entities shaped and guided by external influences (Bandura, 1987). Consumers' structural positions and opportunities to access resources are well understood by their degrees of embeddedness in the social structure (Laud et al., 2015). However, an illustration of consumers' intrapersonal factors that impact their resource integration efforts needs fundamental consideration within value co-creation research. Hibbert et al. (2012) propose the importance of consumers' personal factors such as self-efficacy for self-direct learning processes. While useful, this research fails to offer an empirical understanding about how resource integrators explicitly leverage their self-efficacy within their relational contexts for participating in-service co-creation behaviours.

Self-efficacy is a central factor that offers individuality to consumers and gives subjective properties to their resource integration competencies (Bandura, 1987; McCrae and John, 1992). Socio-cognitive theory suggests that self-efficacy is a significant aspect that deploys the capacity to exercise control over the nature and quality of one's functioning, and the meaning and purpose of one's life pursuits (Bandura, 2001). Moreover, self-efficacy, as an intrapersonal cognitive process, is documented as having the highest level of motivational effects on human actions (George, 1992; Weiss and Alder, 1984; Bandura, 1986). Self-efficacy is defined as a personal judgement of "how well one can execute courses of action required in dealing with prospective situations" (Bandura, 1982, p. 22). Thus, self-efficacy, in the form of phenomenal and functional consciousness, has the potential to clarify consumers' willingness to participate in resource integration within service systems.

Efficacy determines how consumers behave, their thought patterns and their emotional reactions when they experience situations. This personal state thus influences an individual in

pursuing courses of action and how long one continues to gain results. People avoid activities that they believe exceed their coping capabilities (Bandura, 2011). Therefore, judgement of self-efficacy also determines how much effort people are willing to expend and how long they will persist in the face of obstacles and aversions (Bandura, 1977). Consequently, consumers' judgements in their self-efficacy affect their behavioural responses during anticipatory and actual transactions with other entities in their environment (Bandura, 1982). Situational factors and contexts in which people are nested also influence an individual's judgement of self-efficacy.

Extant research in psychology and marketing discusses self-efficacy as the central factor in various behaviours that individuals elicit in their daily lives. These include knowledge-sharing behaviour (Hsu et al., 2007); information-seeking behaviour (Brown et al., 2001); socialisation tactics (Jones, 1986); learning behaviour (Zimmerman, 2000); engagement with the task as a psychological state (Halbesleben and Wheeler, 2008); self-regulation behaviour (Bandura, 1991); and observational learning of cultural symbols and practices to gain legitimacy in their social spheres (Bandura, 2002). Moreover, self-efficacy has implicitly been discussed as a factor influencing customers' discretionary effort exertion (Aggarwal and Basu, 2014).

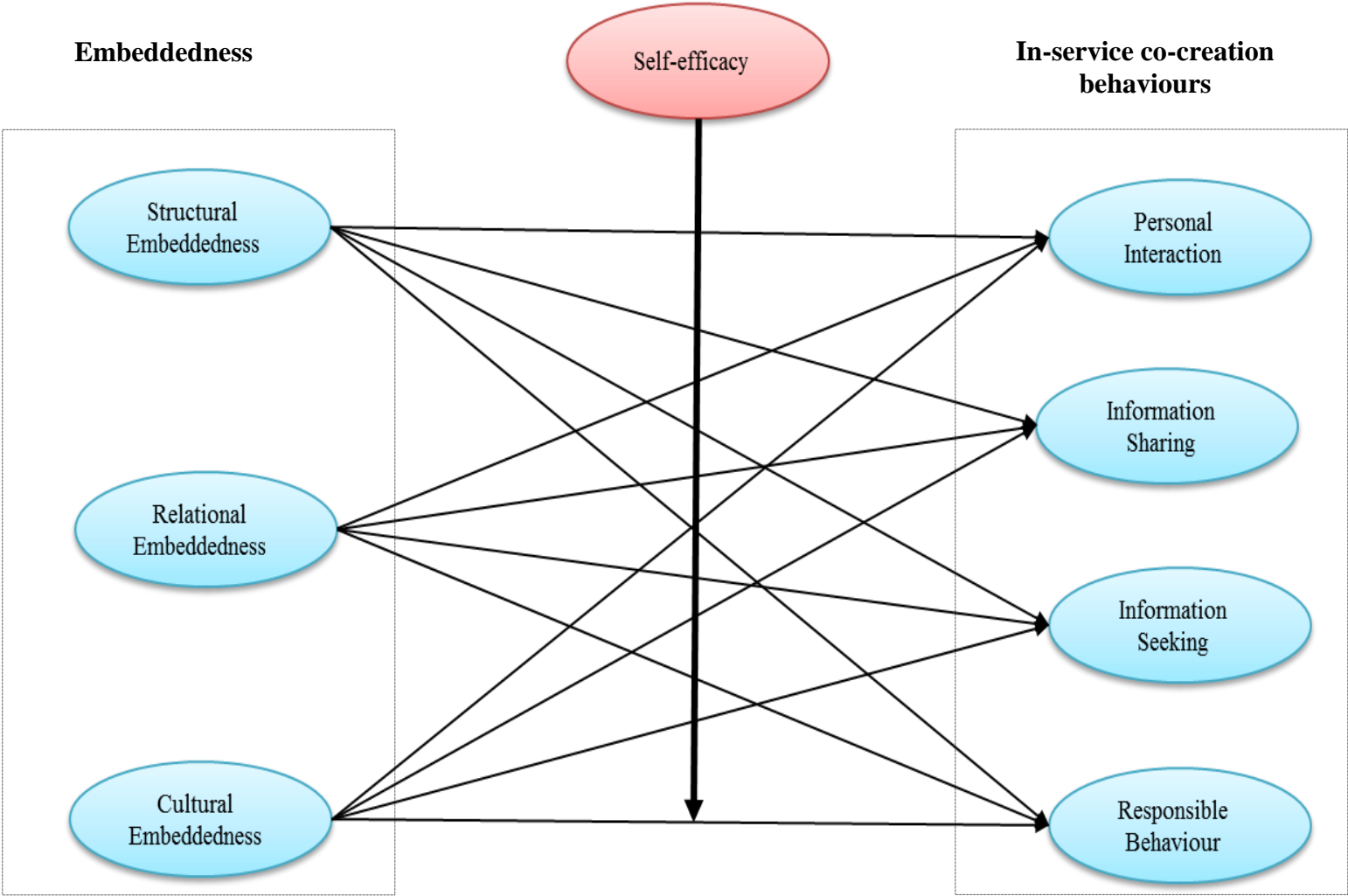
Overall, self-efficacy is considered a key constituent of positive psychological capital or intrapersonal factors that impact co-creation processes. However, there is an inadequate understanding of the role of self-efficacy as a central boundary condition that may influence the consumer embeddedness and co-creation relationship. Although co-creation research conceptually links self-efficacy to consumers' resource integration-related learning activities (Hibbert et al., 2012), an investigation into its role as a key contingency factor in the context of co-creation behaviours is lacking.

More specifically, there is no perspective that examines consumers' resource integration behaviours in multi-layered social constellations or illustrates how intrapersonal properties have the potential to influence their performance levels. In reality, neither interpersonal nor intrapersonal factors solely capture the nature of consumers' resource integration processes; it is rather their interdependencies that are simultaneously at play. Research is thus much needed that explicitly studies the centrality of self-efficacy levels among consumers. These levels are the most likely to impede or accentuate consumers' abilities to navigate within their social constellations and participate in co-creation processes.

## CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

The following hypotheses development section aligns with the conceptual framework depicted in Figure 1. The research model is built on the foundations of Study 2, which investigates the relationship between *embeddedness* and *overall value co-creation behaviour*. However, the present study argues for and examines the direct relationships between embeddedness dimensions and in-service co-creation behaviours. In particular, the proposed model considers participation behaviours that have a direct impact on consumers' contributions to, and usages of, resources. Further, Figure 1 displays self-efficacy as a central boundary condition that reinforces or constrains the direct relationships between consumer embeddedness elements and in-service co-creation behaviours, which will be hypothesised.

Figure 1: Proposed Conceptual Model for Self-efficacy as a boundary condition



In the subsequent section, this study discusses the relationships between embeddedness (structural, relational and cultural) and task-oriented in-service co-creation behaviours as offered by Yi and Gong (2013) (personal interaction, information seeking, information sharing and responsible behaviour), which are proposed to be moderated by self-efficacy.

### ***Embeddedness → In-service co-creation behaviours***

#### ***Structural Embeddedness → Personal Interaction***

Social exchanges initiated to handle complex personal interactions involve a mutual orientation between market actors (Easton, 1992; Ford, 1984; Grönroos, 1990; Wilson and Jantrania, 1994; Wilson and Mummalaneni, 1986). Personal interactions can be either formal or informal, with the parties being mutually active and adaptive. Customers invest resources with their exchange partners in order to develop mutually beneficial and personally interactive relationships (Coviello et al., 1997). The importance of personal interaction is discussed in relationship and service marketing literature (see Czepiel, 1990; Dabolkar et al., 1995; Grönroos, 1984). In particular, the development of cooperative relationships that promote personal interaction in social exchanges leads to a “psychological loyalty” that binds one individual to another (Czepiel and Gilmore, 1987). According to Solomon et al. (1985), in classic service situations, satisfaction and repeat patronage are determined solely by the nature of personal interaction. In a service system, consumers’ embeddedness facilitates the development and maintenance of personal interactions with exchange partners. High consumer embeddedness may lead to a high proclivity to provide access and to share resources with partners, thereby increasing the opportunities for personal interaction.

Structural embeddedness refers to the number of relationships actors have in their social networks and includes the presence or absence of ties between exchange partners (Moran, 2005). Well-connected actors may expose themselves to new and plentiful resources and co-creation opportunities in a service system. Study 2 considers the influence of structural embeddedness on consumers’ value co-creation behaviours. Social capital theory suggests that actors have an inherent need to gather the resources necessary to enhance their wellbeing. This gathering of resources calls for increased personal interactions with available exchange partners (Cook, 2013). High structurally embedded consumers will have more potential alliances—and, as a result, will tend to interact with more partners for the purposes of co-creation and valued outcomes.



However, personal interaction is task behaviour. Consumers are expected to initiate and/or reciprocate to promote cooperation during personal interaction. To establish such reciprocation for collaboration, the individuals' perceived self-beliefs to participate in personal interaction will determine the success of exchanges between resource partners. Thus, self-efficacy influences the relationship between a consumer's level of embeddedness and his or her personal interaction. Consumers with high self-efficacy may interact with new exchange partners to increase their resources. Nevertheless, a consumer with lower self-efficacy may shy away from establishing personal connections; as a result, this affects their competences to access resources for valued outcomes.

Laud et al. (2015) suggest structural embeddedness is also associated with an actor's social position in a service system. This indicates that a consumer's ability to participate in personal interactions with individuals occupying specific social positions (e.g. authorities) may have a higher potential for achieving desired outcomes (Blau, 1964). Yet, in such situations consumers with high self-efficacy may confidently participate in personal interactions, thus increasing their own resource potential and contributing to improved benefits. In summary, consumers' levels of self-efficacy can moderate the relationship between structural embeddedness and personal interaction. Hence, it is proposed that:

**Hypothesis 1.1:** *Consumers' structural embeddedness positively influences their personal interaction behaviours.*

**Hypothesis 1.2:** *Self-efficacy will positively moderate the relationship between structural embeddedness and personal interaction.*

### ***Structural Embeddedness → Information Seeking***

Proactive information-seeking behaviours have been studied to evaluate actors' performances in social settings (Ashford and Cummings, 1983). The information processing and organisational learning literatures propose that a consumer's probability of seeking information from another individual is a function of *knowing* what the person knows, *valuing* what the person knows, and being able to get *timely access* to that person's knowledge (Borgatti and Cross, 2003). Sweeney et al. (2015) suggest that during co-creation activities consumers seek resources by proactively participating in acts of information seeking that will assist in decision-making processes and eventuate in goal accomplishment. Social network research highlights that individuals' structural

configurations play a vital role in the acquisition of information (e.g. Granovetter, 1975). In other words, higher structural embeddedness indicates that large network size is likely to offer more potential opportunities for information seeking.

Such opportunities are beneficial for increasing consumers' resource pools and diversities. Consumers value a diverse range of resources that enables them to create rich value experiences. Further, a diverse range of resources among co-creating consumers is likely to influence the nature of their interactions and the ways in which they can perceive the importance of participating information seeking during co-creation processes.

Engaging in information seeking influences an individual's absorptive capacity (Wesley and Levinthal, 1990). Absorptive capacity is an individual's ability to recognize the benefits of new knowledge and to pursue it for the purpose of personal wellbeing. However, despite the opportunities available through structural embeddedness to access resources from multiple partners, consumers' self-belief, with regard to accomplishing the task of seeking information, will impact the relationship between structural embeddedness and information seeking (Wesley and Levinthal, 1990). Since self-efficacy is the focal determinant of how consumers perceive their ability to perform an action (Bandura, 2011), a consumer with high self-efficacy is more likely to participate in information seeking to gain control of a diverse range of available resources. Therefore, the following hypotheses are proposed:

**Hypothesis 2.1:** *Consumers' structural embeddedness positively influences their information-seeking behaviours.*

**Hypothesis 2.2:** *Self-efficacy will positively moderate the relationship between structural embeddedness and information seeking.*

### ***Structural Embeddedness → Information Sharing***

Research suggests that knowledge sharing can be seen as information in action (Elliot and O'Dell, 1999). Information sharing is the behaviour through which actors disseminate their acquired knowledge to other members in their social groups (Ryu et al., 2003). The willingness to share information with others involves personal cognition and social influence (Aidichvili and Wentling, 2003; Bock and Kim, 2002; Hsu et al., 2006). Studies suggest consumers are actively involved with sharing information during in-service co-creation activities. Such information sharing is often seen as a basic requirement of personal and sharable resources among multiple exchange partners for

actualisation of co-creation processes (Sweeney et al., 2015; Yi and Gong, 2013). While some scholars (e.g. Huber, 1991; Nonaka, 1994) distinguish between knowledge and information, this research uses the two concepts interchangeably, in line with the works of Alavi and Leidner (2001) and Earl (2001), which argue that there is little practical utility in making a distinction between knowledge and information.

Prior research indicates that individuals' self-efficacy, environmental influence and behaviour interact with one another (Bandura, 1986; Compaeu and Higgins, 1995; Wood and Bandura, 1989). Further research (e.g. Sporleder and Moss, 2002) suggests that the desire to share information is not enough; one should also be able to perceive one's capabilities with regard to carrying out the task of sharing. These capabilities include authoring information, collecting information, codifying information and then disseminating it to others. Consumers' social networks provide them opportunities to share information more frequently with exchange partners. Particularly, consumers' structural embeddedness indicates their potential for information diffusion across multiple service-exchange partners; the larger the network size, then the more opportunities consumers have to share information. However, consumers' perceived abilities or self-beliefs with regard to accomplishing the task of information sharing depend on their levels of self-efficacy. Thus, high self-efficacy (as compared to low self-efficacy) will reinforce consumer participation in information-sharing behaviour. Hence:

**Hypothesis 3.1:** *Consumers' structural embeddedness positively influences their information-sharing behaviours.*

**Hypothesis 3.2:** *Self-efficacy will positively moderate the relationship between structural embeddedness and information sharing.*

### ***Structural Embeddedness → Responsible Behaviour***

To co-create valuable service experiences, consumers are expected to adhere to shared rules and to bear responsibilities within their relationships. Responsibility is a concept that can be expressed as the judgement of certain expectations regarding how to act (McDonald and Nijhof, 1999). Compliance with relational responsibilities and exchange norms is a key requirement of participating in value co-creation activities (Sweeney et al., 2015) since structural embeddedness denotes consumers' network sizes and indicates their potential to access resources. Control over

more and diverse resources of a single group or an individual is likely to imbalance the resource integration processes.

Therefore, structurally-embedded individuals are expected to behave in non-opportunistic ways and to participate in ethical co-creation efforts (Karpen et al., 2012). Social capital theory suggests that adherence to relational norms and a sense of responsibility are rewarded during resource integration (Lin, 2001). In interactions for resource exchange, individuals often stand behind, guarantee or offer credits to responsible exchange partners. Such guarantees can be used as credits to negotiate for future resource trades, thus allowing the individual to gain additional resources for co-creation and subsequent value outcomes. Despite this understanding, it is important to highlight that consumers' abilities to bear responsibilities and maintain diverse resource-exchange partners will be influenced by their perceived self-efficacy. A highly efficacious consumer is likely to successfully complete relational responsibilities and manage a large network of resource integrators. Therefore, the following hypotheses are posited:

**Hypothesis 4.1:** *Consumers' structural embeddedness positively influences their responsible behaviours.*

**Hypothesis 4.2:** *Self-efficacy will positively moderate the relationship between structural embeddedness and responsible behaviour.*

#### ***Relational Embeddedness → Personal Interaction***

Relational embeddedness refers to the strength of individuals' relationships. Strong exchange relationships are an outcome of relational cohesion among associations. The findings in Study 2 indicate that consumers favour strong ties because these provide a credible source of resource exchange. Additionally, close personal interactions with resource-exchange partners are considered key to value co-creation activities (Sweeney et al., 2015). Relationally embedded social relationships appear to have particular relevance to flexibility, active information exchange and solidarity within the group (Macneil, 1980). Specifically, in the context of co-creation processes, this implies a bilateral expectation of willingness to adapt as circumstances change among relationally embedded exchange partners (Rowley et al., 2000). Such relationships will proactively provide resources that may be useful to both parties for value co-creation and will prescribe behaviours designed to maintain the relationship. These mechanisms involve complex personal interactions that

facilitate superior value experiences. Personal interactions may require consumers to internalise tacit and explicit knowledge about their exchange partners.

In general, relationally embedded partners are likely to be more participative and compatible with each other (Weir and Hutchings, 2005). Such compatibility may assist in readiness to engage in continuous personal interactions. In other words, relationally embedded consumers participate in frequent personal interactions since, in the absence of such interactions, relational cohesion would not emerge. Therefore, relational embeddedness has a direct influence on consumers' personal interactions.

Yet, interactions undertaken in an environment of close relationships require perceived self-confidence on the part of the consumers, who must be willing to participate in a service exchange. This indicates that self-efficacy beliefs will assist in fostering relational cohesion by reducing social anxieties that could hinder interpersonal interactions (Leary and Atherton, 1986). Consumers with higher self-efficacy will have a better sense of confidence to participate in personal interactions and to nurture resource-exchange relationships.

Interestingly, consumers with low self-efficacy are also likely to invest in personal interactions but with fewer important exchange partners. Socio-cognitive theory suggests that consumers with low self-efficacy perceive themselves to have low self-abilities to accomplish higher goals. However, for both high and low self-efficacy, individuals tend to self-regulate their resources by means of their socio-structural factors. While high self-efficacy consumers are likely to invest in both close and distant exchange partners, lower self-efficacy consumers are likely to rely on only close exchange partners for help with co-creation processes. Hence, this study proposes the following hypotheses:

**Hypothesis 5.1:** *Consumers' relational embeddedness positively influences their personal interaction behaviours.*

**Hypothesis 5.2:** *Self-efficacy will positively moderate the relationship between relational embeddedness and personal interaction.*

### ***Relational Embeddedness → Information Seeking***

Similarly, consumers' relational embeddedness influences their information-seeking behaviours. Information seeking is a core in-service behaviour and fundamental to co-creation processes.

Relationally embedded consumers are likely to seek mutual active exchanges of resources. Similarly, studies suggest relationally embedded individuals may potentially seek more valuable information from each other (Bonner et al., 2004). The coherence and strength between relationally embedded consumers leads to expectations for seeking more diverse information. While relational strength binds consumers in a bilateral agreement to seek and expect credible resources, it is also demonstrated that relational embeddedness is instrumental in seeking ideas from faraway resource hubs. In this regard, Granovetter's (1973, 1982) thesis on strength of ties argues for the importance of both strong and weak ties for acquiring novel resources.

Consumers' relational embeddedness is also responsible for the access of tacit and complex information between resource partners (Hansen, 1999). The degree of relational cohesion corresponds to the compatibilities between exchange partners and how they place value on information contained in their alliances. For instance, a strong relationship with a consumer occupying an important social position in the Weight Watchers Community may be valuable; such a connection may be able to provide access to privileged resources bound to their position. Yet, the ability to place value on resources bound to a position may not be achievable without developing a relational cohesion with the individual occupying the position. Further, such access will require consumers to participate in information seeking to accomplish the task. Therefore, relational embeddedness can impact information seeking among consumers with regard to acquiring the knowledge necessary to achieve valued outcomes.

However, consumers' self-efficacy will influence their perceived abilities to perform the task of information seeking (Bonner et al., 2004). Additionally, high self-efficacy consumers are likely to have higher goals and better cognition to comprehend the importance of resources; therefore, they are likely to determine the importance of gaining control over resources outside the group. Subsequently, they will be more inclined to bring novel diverse resources that may lead to innovative service-exchange processes. In contrast, low self-efficacy consumers are likely to rely on their close-knit partners to assist them in seeking new information and to facilitate its usage for value experiences.

Put simply, consumers' self-efficacy enables them to comprehend the relevance of relational cohesion and determines their propensity to participate in information seeking. Therefore, consumers' self-efficacy will moderate the relationship between relational embeddedness and information seeking. Hence:

**Hypothesis 6.1:** *Consumers' relational embeddedness positively influences their information-seeking behaviours.*

**Hypothesis 6.2:** *Self-efficacy will positively moderate the relationship between relational embeddedness and information seeking.*

### ***Relational Embeddedness → Information Sharing***

Information sharing is an act of diffusing valuable information to exchange partners. Studies suggest information sharing is an important practice associated with building cohesive relationships (Reagans and McEvily, 2003). For instance, during co-creation episodes, relationally embedded consumers may invest time, energy and effort in sharing knowledge with others since they are obliged by relational contracts to share important information. Social capital theory suggests that individuals are indebted to return favours from exchange partners. Withholding information in a close-knit relationship is likely to lead to misunderstandings and defaulting relational contracts. Therefore, due to the mutual guarantee of long-term resource exchanges, relationally embedded consumers are more likely to share elaborate information with their close ties. Similarly, in order to acquire interesting resources from external resource hubs, it is likely that valuable information is used as currency exchange. Moreover, if the purpose of information sharing is to diffuse information across wider social networks, an individual is more likely to share information with weaker ties (Granovetter, 1995). Thus, relational embeddedness determines who gets access and which resources are shared with whom.

Despite the interdependence between consumers' relational embeddedness and participation in information sharing, it is their levels of self-efficacy that determines their abilities to share resources. For instance, consumers with high self-efficacy have an elevated sense of confidence to participate in more knowledge sharing. Studies suggest that individuals involved with sharing information have an enhanced ego-boost and sense of self (Bandura, 1991). High self-efficacy individuals exhibit more efficient strategies to diffuse intellectual resources through interacting with others than do their counterparts with low self-efficacy (Bouffard-Bouchard, 1990). Such skills are valued within the co-creation context because they enable active resource facilitation between exchange partners. On the other hand, a low self-efficacy individual may tend to share information only with close-knit alliances. Low self-efficacy consumers may perceive their abilities as being too deficient to interact with outside resource partners, and they are likely to suffer from social awkwardness to participate in information sharing with strangers. Hence:

**Hypothesis 7.1:** *Consumers' relational embeddedness positively influences their information-sharing behaviours.*

**Hypothesis 7.2:** *Self-efficacy will positively moderate the relationship between relational embeddedness and information sharing.*

***Relational Embeddedness → Responsible Behaviour***

Relational cohesion fosters responsible behaviours among co-creating partners. Since relational cohesion leads to continuity in resource access (Laud et al., 2015), consumers have a vested interest in bearing relational responsibilities. Responsible behaviour refers to the appropriate or desirable ways in which a person should act. Cohesive relationships prompt moral and ethical behaviours, which result in a more equal distribution of resources among the close ties. Thus, strong and/or weak ties adhere to the particular values and norms accepted and recognized within a particular community. The values and norms guide their joint participation in co-creation activities and encourage responsible behaviours among exchange partners. Hence, relational embeddedness facilitates more responsible behaviours among exchange partners regarding access and usage of resources. However, a consumer's ability to follow their relational obligations can be influenced by their levels of perceived self-efficacy.

Investment in developing the quality of relationships among resource partners is an on-going process. Such an investment calls for time and effort between exchange partners, which are required to bear adequate responsibilities so that everyone has a potential opportunity to enjoy the benefits of being relationally embedded. The development of common understanding for complying with relational contracts requires consumers' self-belief in their own abilities to devote time and effort responsibly to nurturing the relationships. Consumers with high self-efficacy will display greater regulation over their abilities to recognize, internalise and abide when exchanging norms with both close-knit partners and acquaintances outside their partners. High self-efficacy consumers have greater control over their competencies when operating in unfamiliar resource-exchange environments; thus, they are disposed to behave conscientiously during service exchange. In contrast, low self-efficacy consumers are more likely to participate in responsible behaviour with close alliances. Their inadequate ability to perform in unfamiliar situations may prevent them from venturing outside of their zone of close ties. Hence:



**Hypothesis 8.1:** *Consumers' relational embeddedness positively influences their responsible behaviours.*

**Hypothesis 8.2:** *Self-efficacy will positively moderate the relationship between relational embeddedness and responsible behaviour.*

### ***Cultural Embeddedness → Personal Interaction***

Cultural embeddedness refers to a collective understanding of shared values, goals, morals, beliefs and practices, which ultimately shapes individuals' behaviours (Zukin and DiMaggio, 1990). Such a shared understanding has a significant influence on individuals' behaviours within their social groups. Study 2 discusses the positive influence of cultural embeddedness on consumers' value co-creation behaviours. Consumers' shared understandings of norms and practices guide their personal interactions with resource partners. A highly culturally embedded consumer may better internalise community norms of exchange, thereby facilitating improved personal interactions during service exchanges. In contrast, consumers without this understanding of shared norms may encounter difficulties and miscommunications during co-creation processes. Therefore, cultural embeddedness directly impacts consumers' abilities to participate in personal interactions.

Nevertheless, Bandura (1991) suggests that individuals are self-reflective agents who assess their own abilities to perform various actions. Therefore, consumers' perceived self-beliefs for understanding shared norms, and engaging in personal interactions in accordance with these norms, depend on their levels of self-efficacy. A consumer with high self-efficacy may quickly internalise the rules of the community and may draw on these rules for co-creation purposes in a far more effective way than a consumer with low self-efficacy. Similarly high self-efficacy consumers are more likely to understand tacit cultural sensitivities and acculturate themselves easily. In doing so, they are more likely to develop personal interactions in both familiar and unfamiliar environments; thus, they gain control over relevant resources to integrate and actualise richer value experiences. However, low self-efficacy consumers are less likely to self-align themselves to cross-cultural resource-exchange settings. This may occur due to their low perceived self-belief in their ability to comprehend the complexities of shared cultural contexts. As a result, consumers with low self-efficacy are less likely to participate in personal interaction within cross-cultural situations. Therefore, the following is posited:

**Hypothesis 9.1:** *Consumers' cultural embeddedness positively influences their personal interaction behaviours.*

**Hypothesis 9.2:** *Self-efficacy will positively moderate the relationship between cultural embeddedness and personal interaction.*

### ***Cultural Embeddedness → Information Seeking***

In line with the above understanding of cultural embeddedness, the study seeks to understand the impact of cultural embeddedness on actors' information-seeking behaviours. The significance of culture for co-creation processes via relational exchanges is highlighted by Akaka et al. (2013). Interactions designed to search for and acquire information from other resource partners call for an understanding of the exchange norms common to a particular service system. Such an understanding facilitates easy resource exchange and, thereby, leads to positive outcomes (Laud et al., 2015). Therefore, consumers' cultural embeddedness directly impacts the ways in which they interact with other exchange partners to seek information for personal betterment.

However, consumers' abilities to comprehend knowledge concerning the resource norms for seeking resources/information from exchange partners will be influenced by their levels of self-efficacy. Consumers with high self-efficacy are more likely to draw on cultural variations and use them to negotiate during resource exchange. Similarly, highly efficacious consumers are more likely to understand the importance of complying with shared norms and values among exchange partners. Consumers with low self-efficacy may refrain from investing effort into understanding the cultural facets of a service system. In so doing, they may choose not to participate in active information seeking from unfamiliar or multifaceted cultures—and, thus, may not reach out to diverse resource partners for resource integration. Therefore, the following hypotheses are posited:

**Hypothesis 10.1:** *Consumers' cultural embeddedness positively influences their information-seeking behaviours.*

**Hypothesis 10.2:** *Self-efficacy will positively moderate the relationship between cultural embeddedness and information seeking.*

### ***Cultural Embeddedness → Information Sharing***

Similarly, information sharing for collaboration towards desired outcomes is a significant aspect of interpersonal support. Social capital and social exchange theories suggest that individuals share information with their social groups because of the relational contracts for which they have signed up. The reciprocity of actions and the obligation to support resource sharing are important factors in which individuals invest when maintaining interpersonal relationships (Lin, 2001). The promotion of information sharing is crucial for the success of co-creation processes among consumers.

Research suggests that culture plays a significant role in the execution of information sharing (Weir and Hutchings, 2005). Achieving cultural trust during information-sharing episodes requires an understanding of the norms and values of the culture. Consumers are expected to be culturally sensitive when co-creating in cross-cultural settings. Thus, culturally embedded consumers will participate in maintaining cultural norms in order to produce information-sharing behaviours. A high self-efficacy among consumers will assist in the consumers' acknowledgments of cultural variations and their acculturation to the norms. This will aid them in sharing information that is aligned with cultural norms. Therefore, consumers with high self-efficacy will enable better joint participation and achieve compatibilities with their resource partners in both familiar and unfamiliar situations. Additionally, high self-efficacy consumers are more disposed to exercise control over relevant resources due to their perceived belief for learning and assimilating new cultural norms that can facilitate information sharing. In contrast, low self-efficacy consumers may limit their richer value experiences by their awkwardness to grasp shared understandings in different cultural contexts. Therefore:

**Hypothesis 11.1:** *Consumers' cultural embeddedness positively influences their information-sharing behaviours.*

**Hypothesis 11.2:** *Self-efficacy will positively moderate the relationship between cultural embeddedness and information sharing.*

### ***Cultural Embeddedness → Responsible Behaviour***

Humans have evolved with an advanced capacity for observational learning. This enables them to develop values, emotional propensities, competences and legitimacies for their actions by using the rich fund of information conveyed by cultural forces (Bandura, 2002). Individuals internalise

their cultural contexts and accordingly enact to comply with them. An individual's potential to integrate shared norms and cultural variations empowers them to participate in moral conduct and responsible behaviours (Bandura, 1991). Importantly, bearing relational responsibilities and abiding by relational contracts necessitates a deeper understanding of cultural cues since the expectations of responsible behaviour between partners may have different meanings in different cultural contexts.

Although, in a general sense, non-opportunistic behaviours and ethical resource exchanges are considered to be norms, they can differ across cultural settings. Anthropological and sociological literature (e.g. Portes, 1998) bears testament to how societies and human ecosystems differ in egalitarian distribution of resources across cultures. Despite the interlinkages between consumers' cultural embeddedness and responsible behaviours, it is their level of self-efficacy that will reinforce or constrain their ability to acquire and distribute resources responsibly in different cultural contexts. High self-efficacy consumers may have higher self-belief in executing responsibilities of cross-cultural exchange relationships. In doing so, they are more likely to gain cultural trust and therefore attain better value experience. High self-efficacy consumers are also more likely to execute a fair distribution of resources, as their elevated perceived self-efficacy beliefs may lead them to build greater self-confidence in their abilities to gain more resources if needed. On the contrary, a low self-efficacy belief may lead to insecurities and participation in an unethical distribution of resources. Hence, this study proposes the following:

**Hypothesis 12.1:** *Consumers' cultural embeddedness positively influences their personal responsible behaviours.*

**Hypothesis 12.2:** *Self-efficacy will positively moderate the relationship between cultural embeddedness and responsible behaviour.*

## **METHODOLOGY**

### ***Data Collection***

The proposed framework is tested within a firm-facilitated online service environment of an international weight management firm. This purposefully chosen context offers various types of co-creation avenue for its members/consumers to evoke in-service behaviours. All consumers of the firm were given membership to the online forum.

As discussed in Study 2, a survey was emailed to ( $n = 583$ ) online forum members; incentives were offered as an appreciation of their participation in the survey. Survey reminders were sent to the participants. A total of 263 members started the survey, which resulted in a 44.5% initial response rate. Of these, 61 were discarded because they were significantly incomplete and 202 questionnaires were used for further data analysis. As highlighted in Study 2, the data collected reflected the nature of the Australian weight-management industry. Hence, the majority of survey respondents were females (97.5%), with a mean age of 46 years, and who had received a tertiary/graduate level of education (31.2%). It was also observed that 82.6% of respondents were employed, and 45.5% reported incomes in the range \$51,000–\$110,000 Australian dollars. A total of 87% of respondents had lived in Australia for more than five years. In terms of the respondents' community participation characteristics, 48.5% visited the online forum daily and 37.5% had been members of the forum for more than 24 months. Respective control variables—like age, gender and frequency of visit to the forum—were used; however, they showed no significant effect.

### ***Measures***

As in Study 2, this paper adopted existing measures for all constructs. The following is a summary of all measures used. The items are listed in **Appendix II**.

#### ***Structural embeddedness***

Items were adopted from Lechner et al. (2006) to assess the overall network size of members' total contacts in the forum and to determine the active ties of the respondents.

#### ***Relational embeddedness***

The four-item scale of relational embeddedness developed by Rindfleisch and Moorman (2003) to capture the degree of closeness among social consumers was applied in this study.

#### ***Cultural embeddedness***

The seven-item measure for cultural embeddedness by Barnes et al. (2006) was adapted, which asked respondents to assess their overall understanding of the rules and code of conduct of the community.

### *In-service co-creation behaviours*

The VCB scale of Yi and Gong (2013) was adapted and partially employed by way of its participation component, and in line with the in-clinic (patient) behaviours proposed by Sweeney et al. (2015). Hence, consumers' in-role behaviours were captured by means of the four dimensions of information seeking, information sharing, responsible behaviour and personal interaction.

### *Self-efficacy*

A four-item measure of self-efficacy offered by Yim et al. (2012) was used to assess consumers' perceived abilities to participate in co-creation processes.

The questionnaire was subjected to pilot testing with employees of the firm who participated in the forum and who were also mainly consultants or plan managers working closely with the forum members and each other. Pilot respondents were asked to consider their interactions within the forum. All scales used in the pre-tests were examined for internal consistency, unidimensionality and content validity. This analysis revealed that the survey instrument is generally sound; however, a few items needed revision. The final survey measures and items are discussed in detail in Appendix II.

## **ANALYSIS PROCEDURE AND RESULTS**

### *Common Method Variance*

In line with the marketing literature, two procedures were used to assess and minimise the possibility of common method bias, as suggested by Podsakoff et al. (2003). During the pre-data collection stage, carefully adapted scale items from sources with established reliability and validity were utilized. Additionally, the anonymity of the respondents was assured, and it was indicated that there was no right or wrong answer to the survey questions. In the post-data collection stage, a CFA-based Harman one-factor test (Harman, 1967) was performed. The single latent factor that accounted for all the relevant manifest variables produced an unacceptable model fit (**CFI = 0.470; TLI = 0.420; RMSEA = 0.205**). This suggests that one general factor did not account for the majority of covariance among the measures in this study (Kandemir et al., 2006).

## Main Effects

To investigate the direct relationships between consumer embeddedness and in-service co-creation behaviour, a two-step structural equation modelling approach recommended by Anderson and Gerbing (1998) was used. Amos 22.0 (Arbuckle, 2005) was applied to illustrate the CFA and structural models. In the first step, a confirmatory factor analysis was conducted: the model indicated a good fit (**Chi-square  $\chi^2 = 433.836$ , degrees of freedom (d.f.) = 224, CFI = 0.948, TLI = 0.936, RMSEA = 0.06, SRMR = 0.042**). Thereafter, convergent and discriminant validity were examined to validate the scales used in model construct reliability. All AVE (average variance extracted) exceeded 0.5 as evidence of convergent validity and exceeded all squared correlations in view of discriminant validity (see Table 1) (Fornell and Larker, 1981). Then followed an estimation of a structural model, which indicated an acceptable goodness-of-fit (**Chi-square  $\chi^2 = 249.614$ , degrees of freedom = 155, CFI = 0.963, TLI = 0.970, RMSEA 0.055, SRMR= 0.061**). The results of the hypothesized relationships are illustrated in Table 2.

**Table (1) Discriminant and Convergent Validity Correlation Matrix - Self –efficacy**

<i>Constructs</i>	<b>AVE</b>	<b>CR</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>Structural Embeddedness (1)</b>	<b>0.604</b>	<b>0.748</b>	1							
<b>Relational Embeddedness (2)</b>	<b>0.783</b>	<b>0.978</b>	0.103	1						
<b>Cultural Embeddedness (3)</b>	<b>0.601</b>	<b>0.921</b>	0.033	0.197	1					
<b>Personal Interaction (4)</b>	<b>0.849</b>	<b>0.963</b>	0.024	0.111	0.144	1				
<b>Information Sharing (5)</b>	<b>0.825</b>	<b>0.904</b>	0.152	0.478	0.280	0.187	1			
<b>Information Seeking (6)</b>	<b>0.634</b>	<b>0.775</b>	0.106	0.291	0.260	0.203	0.504	1		
<b>Responsible Behaviour (7)</b>	<b>0.767</b>	<b>0.868</b>	0.042	0.198	0.207	0.184	0.304	0.346	1	
<b>Self-efficacy (8)</b>	<b>0.673</b>	<b>0.949</b>	0.114	0.248	0.086	0.056	0.262	0.126	0.335	1



## **Moderator Effects – Multi-group Analysis.**

The study uses measurement of invariance to assess the moderating effect of self-efficacy. Measurement invariance refers to “whether or not, under different conditions of observing and studying phenomena (countries, cultures, psychometric properties, products), measurement operations yield measures of the same attribute” (Horn and McArdle, 1992: 27). The central idea underlying measurement invariance is that relations between observed scores and latent constructs are identical across groups (Berry, 1980). Self-efficacy is a psychometric property that may differ from person to person; which means it is subjective in nature. Hence, testing for its moderating effect across causal paths (embeddedness → in-service role behaviours) would be rather challenging. Byrne (2010) suggests that when researchers are interested in finding the answer to “certain paths in a specified causal structure equivalent across populations”, then testing invariance using a multigroup application is an appropriate method. Thus, with invariance testing, researchers can confirm the equivalence of constructs so that any difference detected thereafter can be related to a moderating effect. Further, Steenkamp and Baumgartner (1998) and Delgado-Ballester (2004: 582) suggest a “multigroup covariance structure analysis approach is an increasingly restrictive test of equivalence that represents the most powerful and versatile approach to testing of cross-group measurement invariance”.

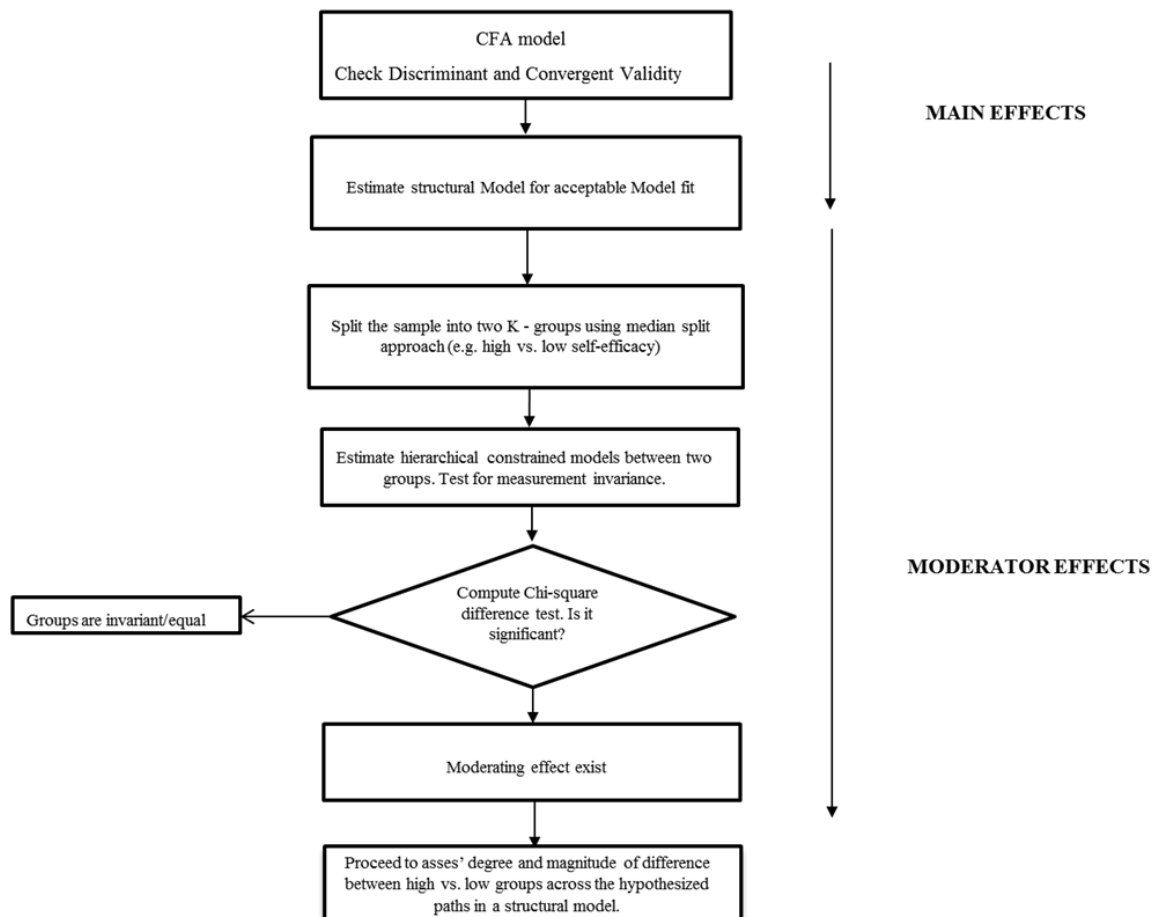
The method employed in this study is reflective of the multigroup analysis discussed in the marketing literature (e.g. Schumacker and Marcoulides, 1998; Delga-Ballester, 2004; Arne and Treiblmaier, 2006; Kumar and Lim, 2008; Binge-Alcaniz et al.; 2009). Essentially, the study follows Byrne’s (2004) multi-group analysis paradigm for testing invariance across groups.

The testing of multigroup invariance is based on the seminal works of Joreskog (1971); this methodology involves a hierarchical ordering of nested models. Specifically, more than one sample dataset is subjected to a series of hierarchical steps to first determine the baseline models to establish the best fits for the data from the perspectives of both parsimony and substantive meaningfulness (Byrne, 2010). Baseline models are the least restrictive models. Thereafter, the tests for the equivalence of parameters are conducted across groups at each of several stringent levels (Byrne, 2004). Figure 3 depicts a flowchart for guiding the multigroup analysis employed here. For further invariance testing, it is essential that the baseline model achieves an acceptable fit because it provides the basis of comparison for all subsequent models in the hierarchy.

As noted earlier, Model 1 hypothesised self-efficacy as having a positively moderating effect on the relationship between *consumers' embeddedness* → *in-service co-creation behaviours* (such as personal interaction, information seeking, information sharing and responsible behaviour). As suggested by Hair et al. (2010) and Byrne (2010), the sample was divided into two groups (high and low) in accordance with their levels of self-efficacy.

A median-split method was conducted in this study, based on the values of the moderator variables. This is in line with the suggestion of Ping (1996), who argues that this method allows each group to have an adequate sample size. Furthermore, the median-split method has been employed within various marketing studies (e.g. Arn and Treiblmaier, 2006; Jaworski and MacInnis, 1998; Huang and Rundle-Thiele, 2014). Baron and Kenny (1986) state that moderator levels are treated as different groups for situational factors. Thus, consumers with a higher predominance of self-efficacy exceeded the sample mean (**4.0**) of the values, and individuals who did not comply with the condition were considered to have lower self-efficacy. The division provided one group of consumers with **higher self-efficacy (n = 112)** and **lower self-efficacy (n = 90)**. Multi-group analysis does not require equal sample sizes in each group (Brown, 2006).

Figure 2 – Flow Chart depicting Moderator Multigroup analysis procedure.



## Results for Self-efficacy as Key Boundary Condition

Following the sequence of tests for invariance constraints described in Figure 3, the baseline model was estimated: Model (M1<sub>baseline</sub>). No equality constraints were specified across the groups. The test results of the no-constraint model (M1<sub>baseline</sub>) revealed a chi-square value of **Chi-square  $\chi^2 = 475.13$  with 310 degrees of freedom**. The appropriateness of the posited structure depended on the overall model fit, which was acceptable (**TLI = 0.932, CFI = 0.944, RMSEA = 0.052, SRMR = 0.0581**); this is also called an unconstrained model (Byrne, 2004).

Further, a stage approach was followed by employing equality constraints on the factor-loading matrices of both the observed dependant and independent variables in order to generate hierarchical constrained models of constrained factor loadings, error variance and factor variance. To further test the invariance of the measurement model, additional constraints were also placed for measurement weights (constrained factor loadings) for Models M1.2. The chi-square difference tests reveal insignificant ( $p > 0.05$ ) results. Therefore, subsequent models M1.3 and M1.4 were estimated (factor variance, covariance and error variance), and for measurement residuals for M1.5, which is also called a fully-constrained model (Byrne, 2004). To see if moderating effects were present, the difference between the chi-squares was computed to investigate if the structural model was invariant or non-invariant between the high and low groups.

In line with the methods of Dabholkar and Bagozzi (2002) and Byrne (2004, 2010), if there is a significant change in chi-square between the constrained model (M1.3) and (M1<sub>baseline</sub>) and (M1.4) and the unconstrained model (M1<sub>baseline</sub>), then it can be concluded that a moderating effect exists. In other words, evidence of non-invariance is claimed if the chi-square difference test is statistically significant. Additionally, a significant improvement in the chi-square value from an unconstrained model to a constrained model signifies that the moderator variables have a differential effect on the tested causal path, and hence could be confirmed as moderators (Byrne, 2010). In line with the above procedure, the structural unconstrained (M1<sub>baseline</sub>) model and the constrained nested models (M1.3 to M1.5) were examined in stage approach. Subsequently, the chi-square difference test values between the unconstrained versus fully constrained (M1.1, M1.3, M1.4 and M1.5) model indicated that path coefficients across the two groups' (high vs. low) self-efficacy varied significantly (see Table 2). In particular, the chi-square difference between fully unconstrained and fully constrained model is ( **$\Delta$  Chi-square  $\chi^2 = 390.335$ ,  $\Delta$ degrees of freedom = 55,  $p < 0.05$** ) (see Table 2). Thus, invariance testing across the models assisted in establishing the difference between the high and low self-efficacy groups, which indicated that the degree of

relationship between consumers' embeddedness and in-service co-creation behaviour is moderated by self-efficacy.

More importantly, and beyond the significance of establishing moderating effects, the objective of this study is also to provide evidence about the magnitude of the potential moderator influence. Hence, the aim is to explore if self-efficacy as a whole could exert a strong moderating effect, and to what degree could differences between high and low self-efficacy interact with the paths between *consumer's embeddedness*  $\rightarrow$  *the hypothesized in-service co-creation behaviour*.

Table 3 illustrates the direct relationships between embeddedness and in-service co-creation behaviours. Additionally, it represents and discusses the specific differences between (high vs. low) self-efficacy across individual hypothesized paths between dimensions of embeddedness and the four co-creation behaviours. From the analysis, it is clear that the relationship between *structural embeddedness*  $\rightarrow$  *responsible behaviour* is not significant; hence, hypothesis 4.1 is not supported. On the other hand, hypotheses 1.1, 2.1 and 3.1 are significant.

Further, examining the results of the high self-efficacy vs. low self-efficacy groups suggests that the groups are different. For instance, the relationship between *structural embeddedness*  $\rightarrow$  *personal interaction* and the high self-efficacy group (**high  $\beta = 0.43$ ,  $p < 0.05$** ) is found to have a higher moderating effect on the path than for the low self-efficacy group (**low  $\beta = 0.05$ ,  $p < 0.05$** ). For *structural embeddedness*  $\rightarrow$  *information sharing*, the high self-efficacy group (**high  $\beta = 0.77$ ,  $p < 0.05$** ) is found to have a higher moderating effect on the path than the low self-efficacy group (**low  $\beta = 0.14$ ,  $p < 0.05$** ). Similarly, the relationship between *structural embeddedness*  $\rightarrow$  *information seeking* for the high self-efficacy group has a higher moderating effect (**high  $\beta = 0.75$ ,  $p < 0.05$** ) than for the lower self-efficacy group (**low  $\beta = 0.03$ ,  $p < 0.05$** ).

In regard to the relationship between relational embeddedness and the four in-service behaviours, the analysis suggests that all four hypothesised relationships (5.1, 6.1, 7.1 and 8.1) are significant. However, for the relationship between *relational embeddedness*  $\rightarrow$  *personal interaction*, the high self-efficacy group has a lesser moderating effect than the low self-efficacy group (**high  $\beta = 0.02$ ,  $p < 0.05$** ) and (**low  $\beta = 0.12$ ,  $p < 0.01$** ). The results are similar for the following relationships: *relational embeddedness*  $\rightarrow$  *information sharing* (**high  $\beta = 0.13$ ,  $p < 0.05$** ) and (**low  $\beta = 0.58$ ,  $p < 0.001$** ); *relational embeddedness*  $\rightarrow$  *information seeking* (**high  $\beta = 0.12$ ,  $p < 0.05$** ) and (**low  $\beta = 0.39$ ,  $p < 0.01$** ); and *relational embeddedness*  $\rightarrow$  *responsible behaviour* (**high  $\beta = 0.10$ ,  $p < 0.05$** ) and (**low  $\beta = 0.17$ ,  $p < 0.05$** ).

Finally, the relationships between cultural embeddedness and personal interaction (9.1), information seeking (10.1), information sharing (11.1) and responsible behaviour (12.1) are all significant. In the context of the degree of moderation across the two groups, the results suggest that throughout all hypothesized relationships the high self-efficacy group has a greater degree of moderation compared to the low self-efficacy group. The results for these relationships are as follows: *cultural embeddedness*  $\rightarrow$  *personal interaction* (**high  $\beta = 0.49$ ,  $p < 0.05$** ) and (**low  $\beta = 0.13$ ,  $p < 0.05$** ); *cultural embeddedness*  $\rightarrow$  *information seeking* (**high  $\beta = 0.33$ ,  $p < 0.05$** ) and (**low  $\beta = 0.34$ ,  $p < 0.01$** ); *cultural embeddedness*  $\rightarrow$  *information sharing* (**high  $\beta = 0.43$ ,  $p < 0.05$** ) and (**low  $\beta = 0.24$ ,  $p < 0.01$** ); and *cultural embeddedness*  $\rightarrow$  *responsible behaviour* (**high  $\beta = 0.47$ ,  $p < 0.05$** ) and (**low  $\beta = 0.26$ ,  $p < 0.05$** ).

**Table (2) Multi group Invariance Testing Chi-square difference test – Self Efficacy as a moderator**

<b>Model</b>	<b>NPAR</b>	<b>CMIN</b>	<b>DF</b>	<b>CMIN/DF</b>	<b>Chi-square difference</b>	<b>P - value</b>	<b>CFI</b>	<b>RMSEA</b>
<b>M1.1</b> baseline – <b>unconstrained</b>	110	475.713	310	1.535		0.093	0.944	0.052
<b>M1.2</b> – constrained factor loadings (M1.2 versus M1.1)	97	495.786	323	1.535	$\Delta X^2 20.07(\text{d.f.} = 13)$	***	0.942	0.052
<b>M1.3</b> – constrained factor loadings and factor variances (M1.3 versus M1.1)	85	536.383	335	1.601	$\Delta X^2 60.67(\text{d.f.} = 25)$	***	0.932	0.055
<b>M1.4</b> – covariance and error variances (M1.4 versus M1.1)	79	572.271	341	1.678	$\Delta X^2 96.55(\text{d.f.} = 31)$	***	0.922	0.058
<b>M1.5</b> – <b>fully constrained</b> (M1.5 versus M1.1)	55	866.048	365	2.373	$\Delta X^2 390.33(\text{d.f.} = 55)$	***	0.905	0.066

\*\*\* = ( $p < 0.05$ )

**Table (3) Results for Hypothesis Testing Self-efficacy as a Moderator**

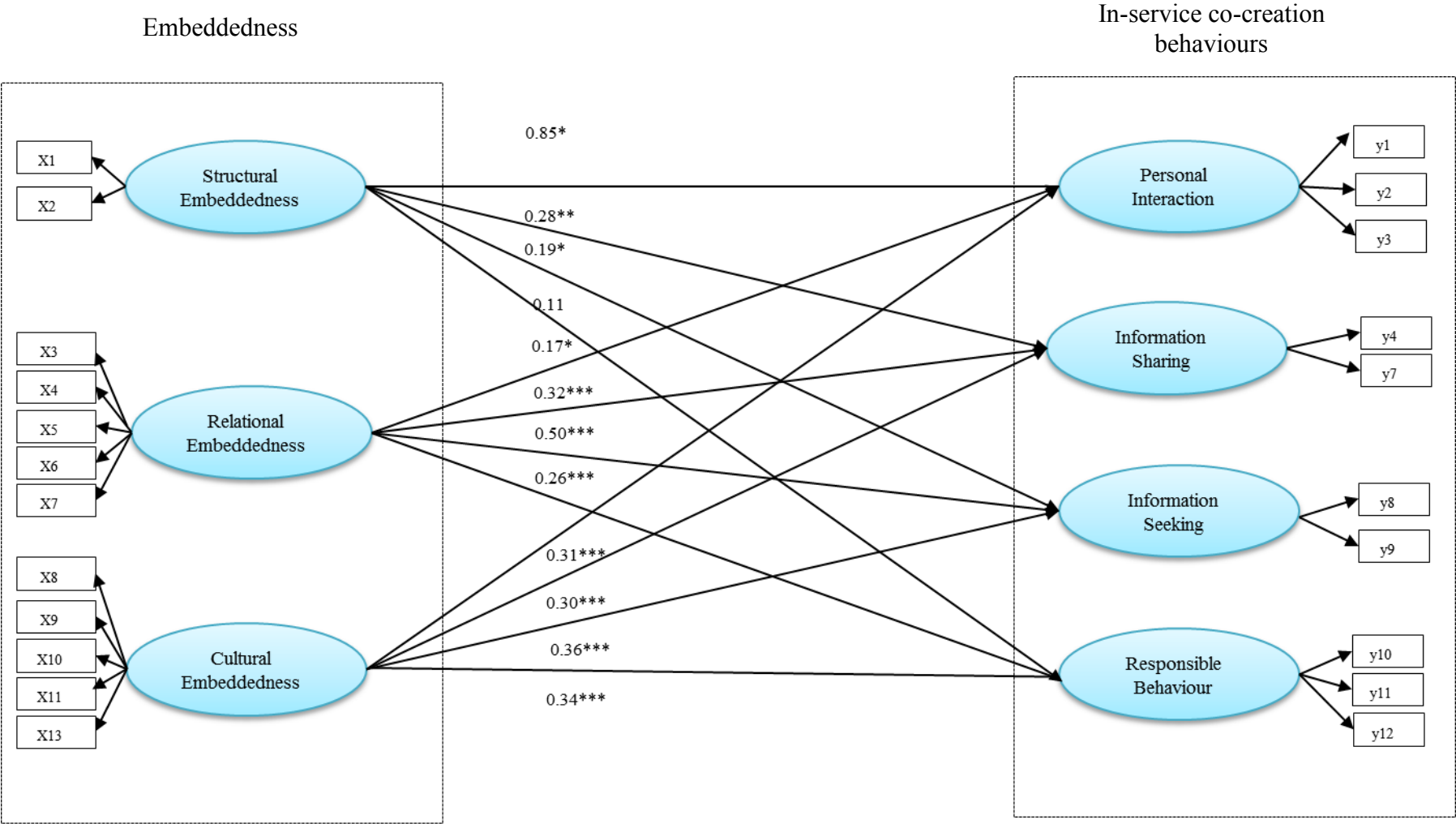
<b>Relationships</b>	<b>Main effect</b>	<b>High Self -efficacy</b>	<b>Low Self – efficacy</b>	<b>Comparison high vs. Low Self-efficacy group</b>
<i><b>Moderator Self -efficacy</b></i>	$\beta$ (t-values)	$\beta$	$\beta$	
Structural Embeddedness → Personal Interaction	0.85(2.84)*	0.43*	0.05*	H > L
Structural Embeddedness → Information Sharing	0.20(3.01)**	0.77*	0.14*	H > L
Structural Embeddedness → Information Seeking	0.19(2.33)*	0.75*	0.03*	H > L
Structural Embeddedness → Responsible Behaviour	0.11(1.39)	0.56	0.07	H = L
Relational Embeddedness → Personal Interaction	0.17(2.19)*	0.02*	0.12**	H < L
Relational Embeddedness → Information Seeking	0.32(3.83)***	0.12*	0.39**	H < L
Relational Embeddedness → Information Sharing	0.50(7.41)***	0.13*	0.58***	H < L
Relational Embeddedness → Responsible Behaviour	0.26(3.25)***	0.10*	0.17*	H < L
Cultural Embeddedness → Responsible Behaviour	0.34(4.02)***	0.47*	0.26*	H > L
Cultural Embeddedness → Personal Interaction	0.31(3.78)***	0.49*	0.13*	H > L
Cultural Embeddedness → Information Sharing	0.30(4.48)***	0.43*	0.24**	H > L
Cultural Embeddedness → Information Seeking	0.36(4.15)***	0.33*	0.34**	H > L

Note \*\*\* = ( $p < 0.05$ ) \*\* = ( $p < 0.05$ ) \* = ( $p < 0.05$ ) t values are in the parentheses.

H = High Self-efficacy; L = Low Self-efficacy

Chi-square difference test is significant for unconstrained Model (1.1) versus fully constrained Model (1.5) models =  $\Delta X^2 390.33$ (degrees of freedom. = 55)

Figure 3: Results of Hypotheses Testing : Main Effects



Note \*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$



## DISCUSSION

### Theoretical Implications

Study 3 makes several contributions to resource integration research by examining the boundary role of self-efficacy for consumers' in-service co-creation behaviours. Specifically, the study advances S-D logic literature in important ways. First, study 3 is the only research that highlights the synergistic relationship between consumers' intrapersonal and interpersonal forces and their influence on their in-service behaviours. Despite the significance of self-efficacy as an important cognitive process that explains the complexities of human functioning, its role in understanding how consumers perceive their abilities to participate in co-creation behaviours has been largely neglected within the S-D logic literature. Recent research (e.g. Hibbert et al., 2012) calls for investigating how consumer segments differ in their perceived self-efficacy in ways that impact their resource integration processes. Similarly, Laud et al. (2015) call for research to better understand the role of embeddedness in resource integration contexts.

Study 3 addresses these calls by advancing the conceptual and empirical understanding of the linkages between embeddedness and in-service co-creation behaviour considerations. In doing so, it reveals deeper insights into the mechanisms of co-creation processes in service ecosystems. Second, study 3 goes further by offering a fine-grained understanding of self-efficacy as a central boundary condition, and therefore investigates its influence on direct relationships between the dimensions of individual consumers' embeddedness and in-service co-creation behaviours. This study thus sheds light on how consumers exercise self-belief and self-regulation to participate in co-creation behaviours that will determine their control over valuable resources and facilitate outcomes. Study 3 begins by proposing the following two key research questions: *What is the influence of consumer embeddedness on in-service co-creation behaviours? What is the role of self-efficacy in view of shaping the relationship between consumer embeddedness and in-service co-creation behaviours?*

Consistent with Sweeney et al. (2015) and Yi and Gong (2013), this study examines four in-service co-creation behaviours (personal interaction, information seeking, information sharing and responsible behaviour) that manifest consumers' participation efforts. Findings suggest that consumers' structural embeddedness has a significant impact on their personal interactions, information seeking and information-sharing behaviours. This indicates that structurally-embedded consumers leverage opportunities for resource integration within a diverse pool of exchange

partners. Similarly, the significant relationships between consumers' relational and cultural embeddedness regarding the four in-service co-creation behaviours suggest, for instance, that social and cultural closeness in relationships with exchange partners offer potential bilateral guarantees for information sharing and seeking.

Third, the present study advances the understanding of how relational closeness can lead to better representations of personal interaction and adherence to relational responsibilities. More embedded resource-exchange partners are bound by relational contracts that perpetuate on-going resource integration than are less-embedded partners. Fourth, in the context of cultural embeddedness, the findings demonstrate the significance of consumers' shared understandings about exchange norms and values for their in-service performances. Consumers' assimilation of cultures within service systems enables them to draw important cues about participating in resource integration. Importantly, it assists them to legitimise their actions, and thus to align themselves with other exchange partners to better integrate resources interdependently.

Interestingly, the findings did not indicate a significant relationship between structural embeddedness and responsible behaviour. Structural embeddedness denotes the number of relationships that individuals have in their networks. Engaging in responsible behaviour for self-regulation and usage of resources is driven by a deeper comprehension of shared norms and values among the community. Although structural embeddedness offered opportunities for understanding the cross-cultural norms of exchange, the findings did not support its influence on consumers' likelihood of engaging in responsible behaviour. Further, Burt (1980) suggests large network size is a double edged sword. Large network sizes expose individuals to a pool of new resources, but are less apt in intervening into shaping individual's behaviour. Similarly, the notion of "bystander apathy" (Darley and Latane, 1968) is well established in psychological research, indicating that non-close ties has limited potential to arbitrate and influence an individual's behaviour (Burt, 1980).

Fifth, drawing on S-D logic and socio-cognitive theory, Study 3 illustrates how self-efficacy impacts consumers' decisions regarding which co-creation behaviours and environments they choose to contribute within a system. The aim is to enable consumers to employ better regulation and use of resources. The findings suggest that consumer's self-efficacy moderates the relationship between structural embeddedness and personal interaction, information-sharing and information-seeking in-service behaviours. This indicates that consumers with high self-efficacy have better self-regulation and confidence in their abilities to manage a large network and gain more structural embeddedness. Such individuals are more likely to participate in personal interaction to build

familiarity with a higher number of exchange partners. Similarly, differences between high and low self-efficacy groups, when engaging in information-sharing behaviours, suggest that consumers with high self-efficacy have an increased sense of self-confidence for situation analysis and for deploying the required resources by sharing information within a larger network.

Additionally, such consumers have an elevated sense of control over their resources, and therefore may constantly seek to integrate those resources. In so doing, they are likely to participate in information seeking to self-regulate effectively for perceived inadequacies of resource stocks. Higher self-efficacy groups are found to be better at managing simulations and interpreting information, and then utilizing them to gain desired values (Bandura and Wood, 1989). Thus, high self-efficacy consumers may possess better capabilities for leveraging their wider network of exchange partners and engaging in interactions to accomplish their personal co-creation goals. In the context of the weight loss community, members with high self-efficacy seek personal interactions and share more information with larger numbers of other consumers. Overall, the results imply that consumers with high self-efficacy are likely to integrate and participate with in-service behaviours of information seeking, information sharing and personal interaction with a larger number of resource-exchange partners. As a result, the study contributes to the understanding that high self-efficacy groups are likely to accumulate and control valuable resources for better adaptation and self-enhancement.

Sixth, the findings suggest consumers' self-efficacy moderates the relationship between consumers' cultural embeddedness and personal interaction, information-sharing, information-seeking and responsible behaviours. In particular, the high self-efficacy group is likely to readily internalise and interpret the shared norms of resource exchange in a service system. Such acts of norm internalisation may lead to faster acculturation in high self-efficacy consumer groups. Such consumers are likely to accept and adapt cultural variations and, by self-regulating their co-creation behaviour patterns, comply with the cultural context. High self-efficacy consumer groups may be able to better comprehend cultural sensitivities when compared to low self-efficacy groups, and thus build cultural trust for easy information sharing and seeking.

Similarly, high self-efficacy groups are likely to have a greater sense of self-reliance in terms of relational responsibilities. They are also likely to behave in a non-opportunistic manner by practising fair resource-exchange practices. Such responsible behaviour among high self-efficacy consumer groups may facilitate the creation of conducive service-exchange environments. Thus, high self-efficacy groups, by using norms and symbols, could participate in co-creation behaviours

that develop into near seamless communication and coordination with their exchange partners. Consumers with higher self-efficacy have elevated morale. They display greater enthusiasm for supporting others in times of need compared to consumers with lower self-efficacy.

Within the forum, the firm established certain codes of conduct and values. Members were expected to adhere to the codes, and they complied with the shared norms and participated responsibly in the service system. Encouraging or rescuing each other towards or from trying different fad diets, foods and exercise regimes was a common norm. Thus, highly self-efficacious consumers are likely to comprehend the cultural facets of service exchange and to articulate self-regulated in-service co-creation behaviours that are meaningful for the desired outcomes. The findings enable a better understanding of how cultural contexts within service systems evolve and are maintained by the consumers within them.

Seventh, findings of the relationship between relational embeddedness and personal interaction, information-seeking, information-sharing and responsible behaviours suggest that, the low self-efficacy group had a higher degree of moderating effect. Socio-cognitive theory suggests that individuals with lower self-efficacy tend to set lower goals compared to high self-efficacy individuals (Bandura, 2011). Due to a lower perception of their ability, these consumers are likely to rely on their close relationships to assist in resource exchange and achieve desired outcomes. Such consumers tend to participate in personal interactions and in information-seeking and information-sharing behaviours with their closer relationships rather than going outside their core group of resource-exchange partners. In so doing, they can more easily regulate resources due to the cohesiveness and compatibility established by these close ties.

With such relational familiarity, low self-efficacy consumers may feel confident and offer or seek help safely without being pressured. In the context of this study, the results further suggest that forum members with low self-efficacy feel more at ease in showing empathy, warmth and care—or in offering solutions—to their close friends rather than perceived outsiders. For instance, they are more disposed to offer venting sessions to their close friends for dealing with the difficult situations encountered during the process of adopting or maintaining a healthy lifestyle. Thus, low self-efficacy consumer groups are likely to foster relational intimacy to enjoy better control of resources through appealing to their close ties.

In summary, the present paper builds on the relationship between embeddedness as a driver of in-service co-creation behaviours, and contributes to research by investigating the core boundary

conditions of this linkage mechanism. Identification of boundary conditions can advance opportunities to understand the contingencies that can impact the relational and interactive nature of resource integration processes.

Self-efficacy is an important psychological factor that plays a key role in individuals' functioning, self-monitoring and the self-regulating of resources. Self-efficacy has the potential to explain the intricacies of human cognitive functioning and build a foundation for understanding human behaviours and their outcomes (Bandura, 1986, 1991, 2011). Further, the variances in individual capabilities to contribute to co-creation processes and achieve desired goals have received insufficient consideration within co-creation literature. The assumption that all consumers participating in resource integration processes are influenced equally by their social networks is a broad view that does not adequately capture the importance of "human" qualities of cognition like self-efficacy and its influence on the resource-exchange process.

The present study demonstrates the significance of conjunctionally examining consumers' intrapersonal (self-efficacy) and interpersonal (embeddedness) factors to achieve a richer understanding of how consumers decide to participate in co-creation behaviours. Such knowledge has a number of important consequences for consumers' outlooks and actions in several co-creative arenas. Thus, self-efficacy and embeddedness provide consumers with a frame of reference for deciding how to control crucial resources necessary to realise co-creation processes.

Overall, Study 3 contributes to scholarship by illustrating consumers' self-efficacy as a key boundary condition for their capabilities to enable themselves, and to regulate resources and behaviours for successful resource integration processes within service systems.

## **Managerial Implications**

Finally, from the managerial perspective, this study reveals the importance of managers developing co-creation activities that provide stimuli to participate and improve self-efficacy among exchange partners. A supportive environment could create incentives for encouraging consumers to commit their time and efforts to activities for engaging in co-creation behaviour to gain tailored outcomes. Similarly, self-efficacy among consumers could be domain-specific. Put simply, some consumers could be highly efficacious in a particular situation while others may have a higher sense of perceived efficacy to deal with different issues. It is important that managers recognise the heterogeneous characteristics of the group they are dealing with. Consumers will participate the

most or least in co-creation behaviours and resource usage when exchange partners possess congruent high or low levels of self-efficacy. An understanding of the composition of the group can assist in facilitating activities that are more attuned with the group competencies in ways that consumers find useful for engaging in deeper value fulfilment (and not leave it halfway). Such understanding not only saves resources and improves productivity but also reduces communication barriers. Facilitating a positive co-creation experience is especially important because it assists in improving self-efficacy among consumers. Therefore, enabling customers to recognize the success of their collaborations could be an effective strategy.

Another strategy could be to offer value propositions to match consumers' self-efficacy, and thus qualify them for sustainable participation in service exchange processes. Identifying highly efficacious consumers who can serve as "value promoters" alongside the firm can be prudent in driving the course of their exchange partners towards the creation of meaningful co-creation experiences. This study is among the very few empirical works that bridge knowledge gaps in the marketing literature to reveal the key aspects managers should consider when operationalizing value co-creation agendas within their service environments.

## **Future Research Limitations and Conclusion**

As noted earlier, this study is among the few preliminary attempts to reveal and produce a more refined understanding of in-service co-creation behaviours. Although it identifies central boundary conditions of interlinks between consumer relational constellations and co-creations, future researchers could build on its framework to delineate additional boundary conditions (for example, innovativeness, knowledge redundancy, knowledge compatibility and more). This research has illustrated that consumers with high (vs. low) self-efficacy integrate and interpret information better because they are more task-focused, less distracted by cognitive interferences and less likely to distort information (Bandura, 1997). Nevertheless, the relationship between structural embeddedness and responsible behaviour was not significant; this intriguing insight needs further validation. Future researchers could test the study model in different service settings for an in-depth analysis of this relationship.

Further, the study hypothesised the boundary conditions as positive influencing factors; but this could be considered a narrow approach. Researchers could also isolate additional boundary conditions. For instance, situational or relational factors—such as atmospherics of service environment, communal orientation and collective efficacy—may also be producing contingency

effects and impact consumer's ability and willingness to participate in co-creation behaviours. Moreover, the study framework adopts embeddedness as an important driver of consumers' co-creation behaviour. However, co-creation research could benefit from models that involve additional antecedents of in-service behaviours and examine the role of self-efficacy as a boundary condition. Similarly, investigating the influence of individual structural, relational and cultural embeddedness on out-service co-creation behaviour is an interesting research avenue. Finally, there is a distinct need for S-D logic scholars to develop a rigorous research agenda that connects S-D logic to behavioural psychology for a better understanding of the behavioural mechanisms of consumers participating in value co-creation processes within service systems.

Significant progress has been made in the domain of service-dominant logic, specifically in understanding how embeddedness influences resource integration and value co-creation processes in a service system (e.g. Laud et al., 2015). S-D logic literature offers interesting theoretical perspectives that converge idiosyncratic research frameworks and unravel the resource integration processes occurring in the service system. However, much work remains to be done on offering empirically-supported research that enables delivering a road map for practitioners to facilitate value co-creation experiences within service systems. More precisely, in relation to encouraging transformative S-D logic thinking in markets, it is important that researchers identify consumer-level emergent properties that are responsible for articulating co-creation behaviour. This study attempts to identify a key element that can create reinforcing or constraining effects on the relationships between consumers' social constellations and their competences to participate in co-creation behaviours. By doing so, the research reveals the dynamics of the interplay of interpersonal and intrapersonal forces for the success of co-creation acts and to contribute to the significance of self-efficacy for co-creation processes.

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## **GENERAL CONCLUSION OF THE STUDIES AND FUTURE RESEARCH AGENDA**

S-D logic has reconstituted the way we see and understand human activities, economic exchanges and social interactions. The footprint of S-D logic now goes well beyond the marketing literature to include entrepreneurship, healthcare, management, innovation operations management, tourism, as well as other disciplines. Thus, S-D logic is emerging into a paradigm to explain large number phenomena. With the growing significance of S-D logic, considerable progress has been made; but often it has resulted in the identification of an additional need for theory construction to include mid-level theory, empirical research and a continued refinement of the S-D logic lexicon (Brodie et al., 2011; Brodie et al., 2006; Winklhofer et al., 2007). More specifically, S-D logic is at a crossroad where theoretical debate about its application are required to cement its practical relevance to organizations.

At the core of such research is the axiomatic premise of S-D logic; that is, in a service-centred view, resource integration processes are relational in nature and value is always uniquely determined by the beneficiary. Limited theoretical and empirical research has developed conceptual frameworks to adequately examine and illustrate the proposed premise. Scholars, such as Akaka et al. (2012), call for future research to investigate various aspects of relational constellations and their roles for value co-creation in service ecosystems. Also, Gummerus (2013) notes that it is vital to develop an in-depth understanding of value co-creation processes and the outcomes and relationships between them (which are not explicitly addressed by S-D logic).

In approaching the above calls for research, this thesis offers multiple significant theoretical and managerial benefits. Overall, the research project is organised in the form of six overarching research questions that are addressed in three individual studies, and which contribute by offering in-depth knowledge about value co-creation processes associated with S-D logic. The major focus of the project is to capture the phenomenon of embeddedness and its implications for resource integration and value co-creation. That is, embeddedness is first translated in Study 1 as an essence of actors' resource integration process in ways that it has the potential to facilitate or constrain opportunities and thereby influence their co-creation capabilities. Further, Study 1 uniquely builds complementarities between S-D logic and SCT,

and conceptualises embeddedness as an important entity that explains the role of relational aspects and social forces in the continuation and (re-)formation of service systems and ecosystems. As a result, Study 1 strengthens S-D logic theory by providing a rich understanding of embeddedness through discussing its structural, relational and cultural dimensions. Each of these dimensions assists in foregrounding the concept of embeddedness and its implications in understanding the influence of relational constellations on value-realization processes.

Second, by validating the role of embeddedness and enriching insights for resource integration processes, Study 2 presents the implications of actors' embeddedness as a driver of value co-creation behaviour and its respective outcomes. Here, value co-creation refers to participation in and contribution to resource integration processes (Chan et al., 2010). As Study 2 demonstrates, actors' embeddedness is a pre-condition in shaping their behaviours and persuading them to seek and actualise co-creation episodes. Preliminary conceptual understandings of antecedents and consequences of value co-creation behaviour exist that offer limited relevance to the co-creation perspectives. Study 2 employs a higher-order, multi-dimensional measure of value co-creation behaviour developed by Yi and Gong (2013), which argues that actors' structural, relational and cultural embeddedness uniquely but simultaneously influences their behavioural manifestations. This indicates that an actor's potential to evoke appropriate behaviours to facilitate a smooth resource exchange is intertwined with their relational constellations and the cultural context in which they are enmeshed. Hence, actor behaviour is not static. Additionally, Study 2 also captures the outcome perspectives of resource integration processes. In line with S-D logic, outcomes are subjective in terms of designated beneficiaries and the context.

Overall, the embeddedness dimensions, value co-creation behaviour and value-in-context outcomes for consumers were integrated in a nomological network. There was a direct positive impact of relational and cultural embeddedness, and no significant relationship was found between actors' structural embeddedness and value co-creation behaviour. Further, actors' value co-creation behaviour also illustrated a significant positive influence on respective value-in-context dimensions. Value co-creation behaviour is important for the firm

in facilitating conditions that encouragingly influence others to engage themselves in value co-creation activities and to improve business performance. This underscores the managerial relevance of understanding the drivers and outcomes of value co-creation behaviour.

Study 3 builds on the conceptualisation of Study 2. The illustrated relationships between drivers and outcomes of value co-creation behaviour are further subjected to boundary conditions that can either reinforce or weaken the relationships. Indeed, the core purpose of Study 3 is to identify boundary conditions that influence social constellations, behaviours and respective outcomes. Actors' intrapersonal factors specifically self-efficacy has the potential to influence consumers' resource integration processes (Hibbert et al., 2012). Thus, by highlighting the significance of intrapersonal factors, Study 3 emphasizes that co-creating actors are conscious beings evoking behaviours which are synergistic outcomes of their intrapersonal (self-efficacy) and interpersonal (embeddedness). The elaboration of boundary condition assists in developing systematic refinements of co-creation frameworks. Multi-group SEM analysis was used to examine the distinguishing influences of (high vs. low) self-efficacy. Ultimately, this emphasized the relevance for practitioners to design and deploy co-creation activities and experiences to motivate participation, and to improve self-efficacy among exchange partners.

While each of the three studies included in this thesis entails individual contributions, limitations and future research suggestions, the following brief outlook seeks to extend these from a more holistic perspective.

The focus of this research project has been the importance of embeddedness in market actors' resource integration processes and co-creations of value. Predominantly, the thesis takes a service-system perspective, as proposed by S-D logic, to theorise about the idea and relevance of embeddedness; yet, consumers' embeddedness is the only perspective considered in this study. Future research should investigate a broader perspective by considering several stakeholders (e.g. suppliers, employees, agents, retailers, etc.) and the role of their embeddedness for value co-creation. A 360-degree perspective is desired so that more in-depth analyses can help in understanding the effectiveness of embeddedness for

resource integration in a service system. In a similar vein, more empirical work would be worthwhile in assessing how actors' cross-system embeddedness can influence his/her co-creation efforts and outcomes. Actors execute different social roles and adapt to varied cultural conditions simultaneously; this would reveal interesting insights into the advantages and disadvantages of cross-system embeddedness.

Researchers could also expand the current knowledge base by focussing on the development of resource-related practice portfolios that explain how embeddedness leads to the emergence of resource-exchange practices and their significance for value realization processes. Scholars could conceptualise practices in alternative research contexts for empirical examination. For instance, the practice of mobilisation dictates the activation, continuity and sustainability in resource flow within and across systems. However, there is no examination of the significance of highlighting actors' willingness to mobilise or their readiness to integrate. Therefore, there is a requirement for more research to highlight the role of mobilisation. Likewise, the development of new resource-related practices would assist in improving the significance and scope for co-creation processes in service ecosystems.

Additionally, Study 2 considers value co-creation behaviour as a unit of analysis that represents market actors' value co-creation efforts. While this offers an in-depth understanding of behavioural manifestations and its antecedents and consequences, a consideration of a practice portfolio as a unit of analysis, and an investigation of its drivers and outcomes would be beneficial for managers in designing unique co-creation experiences.

Further, the focus of this thesis is solely on customer-related value-in-context outcomes. Considering specific outcomes for other beneficiaries (such as firms, suppliers) could actually expand our understanding of desired system benefits that market actors seek when participating in resource integration. This research has contemplated limited firm-related outcomes. Additional benefits (such as market competitiveness, financial performance, market dynamism, innovation rate, service quality and the just-in-time effect) and brand related outcomes (such as brand loyalty, brand love and re-purchase intentions) can be considered for understanding relationships between co-creation behaviours and outcomes.

There is an urgent need to offer realistic managerial frameworks that will enable the connection between S-D logic themes to firms' co-creation efforts and uncover effective strategies for engaging the hyper-connected and empowered marketplaces.

The challenge remains to integrate the S-D logic perspective in more manageable ways within firms' systems. However, such challenges can only be overcome through future research that considers the significance of relationships between multi-stakeholders for developing value propositions for service exchange. Although this thesis highlights the significance of intrapersonal factors, more research is required to offer elaborated theoretical and managerial implications of the blend of socio-psycho forces for the desired outcomes. With rising customer participation in resource integration, avenues that identified range-boundary conditions would be meaningful. For example, firm-related contingencies such as service-setting atmospherics may influence co-creation processes. Ultimately, researchers and managers benefit from empirical insights into how embeddedness and factors beyond can affect higher levels of service system (macro and meso), both for the advancement of academia and for business practice.

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## Appendix I: STUDY 2 Measures, Scales and Cronbach's Alpha Values

Serial No.	Constructs (* indicates the item was dropped)	Cronbach's Alpha	Original Scales
1	<b>Structural Embeddedness</b> <i>Approximately, how many friends do you have in the community?</i> <i>Of your connections in this community, approximately</i>	0.745	Lechner et al.(2006)
2	<b>Relational Embeddedness</b> <i>I share close relationships with my connections</i> <i>I have mutually satisfying relationships with my connections</i> <i>I expect that I will interact with my connections long into the future</i> <i>I have warm and comfortable relationships with my connections</i> <i>I have a strong desire to maintain meaningful relationships with my connections</i> <i>I feel obliged towards my friends for their support*</i>	0.965	Rindfleisch and Moorman (2003)
3	<b>Cultural Embeddedness</b> <i>The values in this community reflect my personal values</i> <i>I appreciate the code of conduct in this community</i> <i>I value the aspirations of other community members</i> <i>I embrace the beliefs of this community</i> <i>Members should be disciplined if they do not abide to the community standards*</i> <i>I share values of this community*</i> <i>I recognise it is customary to celebrate individual weight loss achievements in this community*</i>	0.915	Barnes et al. (2006)
4	<b>Value Co-creation Behaviour</b> <b>Personal Interaction</b> <i>I am always friendly with other members</i> <i>I am very courteous towards other members</i> <i>I am always kind to other members</i>	0.954	Yi and Gong (2013)

<b>5</b>	<b>Information Seeking</b> <i>I searched for the best ways to participate</i> <i>I pay attention to the interactions of other members</i> <i>I ask others for information about various products and services offered by Weight Watchers.</i>	<b>0.774</b>	
<b>6</b>	<b>Information Sharing</b> <i>I make an effort to adequately answer questions in this community</i> <i>I share any information which is helpful to members</i> <i>I give proper information which might be helpful to other members</i> <i>I make an effort to adequately answer questions in this community.</i>	<b>0.903</b>	
<b>7</b>	<b>Responsible Behaviour</b> <i>I perform any tasks that are expected of me</i> <i>I fulfil all my responsibilities as a member</i> <i>I follow the community rules</i> <i>I complete all expected behaviours</i>	<b>0.808</b>	
<b>8</b>	<b>Feedback</b> <i>I provide feedback when I receive good service from Weight Watchers</i> <i>I let my friends know if I have a useful idea to improve the Weight Watchers community services.</i> <i>I let the administrator know if I have problems with the community services</i> <i>I let the community administrator know if I have useful ideas to improve Weight Watchers community services*</i>	<b>0.741</b>	
<b>9</b>	<b>Advocacy</b> <i>I say positive things about the community services to others</i> <i>I recommend Weight Watchers to anyone who seeks my advice</i> <i>I encourage my connections outside the community to use different services offered by the firm</i> <i>I recommend this community to anyone who seeks my advice*</i>	<b>0.856</b>	

10	<b>Helping</b> <i>I help other members if they have problems with the services</i> <i>I teach other members to use Weight Watchers services correctly</i> <i>I assist other members if they need my help*</i> <i>I give advice to other members*</i>	0.84	
11	<b>Tolerance</b> <i>I am willing to be tolerated if my experience is not as expected</i> <i>I am willing to be patient if the community makes a mistake in offering information</i> <i>I am willing to wait longer than usual for appropriate responses from my community</i>	0.825	
12	<b>Value-in-context</b> <b>Object-oriented value</b> <i>I can accomplish my health objectives</i> <i>I can get something done that is important to me</i> <i>I can deal with weight management challenges I am exposed to</i> <i>It is a true pleasure to participate in this community*</i> <i>I think I can make a contribution*</i> <i>I learn about new perspective on weight loss strategies*</i> <i>It is fun or playful*</i>	0.783	(Löbler and Hahn, 2013)
13	<b>Self-oriented value</b> <i>I can let steam off</i> <i>I can relax here</i> <i>It is easy to forget about time and place</i>	0.832	
14	<b>Brand -oriented value - Brand Intimacy</b> <i>I feel Weight Watchers actually cares about me</i> <i>I feel like Weight Watchers actually listens to what I have to say</i> <i>I feel as though Weight Watchers really understands me</i>	0.951	Breivik and Thorbjornsen (2012)

(Items marked \* were dropped due low factor loading)

## Appendix II: STUDY 3 Measures, Scales and Cronbach's Alpha Values

Serial No.	Constructs (* indicates the item was dropped)	Cronbach's Alpha	Original Scales
1	<b>Structural Embeddedness</b> <i>Approximately, how many friends do you have in the community?</i> <i>Of your connections in this community, approximately</i>	0.858	Lechner et al. (2006)
2	<b>Relational Embeddedness</b> <i>I share close relationships with my connections</i> <i>I have mutually satisfying relationships with my connections</i> <i>I expect that I will interact with my connections long into the future</i> <i>I have warm and comfortable relationships with my connections</i> <i>I have a strong desire to maintain meaningful relationships with my connections</i> <i>I feel obliged towards my friends for their support*</i>	0.884	Rindfleisch and Moorman (2003)
3	<b>Cultural Embeddedness</b> <i>The values in this community reflect my personal values</i> <i>I appreciate the code of conduct in this community</i> <i>I value the aspirations of other community members</i> <i>I embrace the beliefs of this community</i> <i>Members should be disciplined if they do not abide to the community standards*</i> <i>I share values of this community*</i> <i>I recognise it is customary to celebrate individual weight loss achievements in this community*</i> <b>Value Co-creation Behaviour</b>	0.819	Barnes et al. (2006)
4	<b>Personal Interaction</b> <i>I am always friendly with other members</i> <i>I am very courteous towards other members</i> <i>I am always kind to other members</i>	0.858	Yi and Gong (2013)

<b>5</b>	<b>Information Seeking</b> <i>I searched for the best ways to participate</i> <i>I pay attention to the interactions of other members</i> <i>I ask others for information about various products and services offered by Weight Watchers.</i>	<b>0.861</b>	
<b>6</b>	<b>Information Sharing</b> <i>I make an effort to adequately answer questions in this community</i> <i>I share any information which is helpful to members</i> <i>I give proper information which might be helpful to other members</i> <i>I make an effort to adequately answer questions in this community.</i>	<b>0.862</b>	
<b>7</b>	<b>Responsible Behaviour</b> <i>I perform any tasks that are expected of me</i> <i>I fulfill all my responsibilities as a member</i> <i>I follow the community rules</i> <i>I complete all expected behaviours</i>	<b>0.851</b>	
<b>8</b>	<b>Self-efficacy</b> <i>I do not doubt my ability to participate effectively</i> <i>I have excellent participation skills</i> <i>I am proud of my participation skills and ability</i> <i>I have confidence in my ability to participate effectively</i>	<b>0.865</b>	<b>Yim et al. (2012)</b>

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